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## SCHOOL MEDICAL SUB-COMMITTEE.

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**Director of Education :**

P. E. MEADON, M.A.

## MEDICAL STAFF.

(Jointly with the Public Health Department).

---

### County Medical Officer of Health and School Medical Officer :

J. J. BUTTERWORTH, M.D., Ch.B., D.P.H.

### Chief Assistant County Medical Officers :

J. FERGUSON, B.A., M.B. Ch.B., D.P.H. (Resigned 31st May, 1929).

R. H. W. FISHER, M.A. M.R.C.S., L.R.C.P., D.P.H.

E. H. SCHOLEFIELD, M.A., M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.

### Assistant County Medical Officers :

L. E. H. R. BARKER, B.A., M.B., Ch.B., D.P.H.

R. J. BATTY, B.Sc., M.B., Ch.B., D.P.H.

W. C. V. BROTHWOOD, M.B., Ch.B., M.M., D.P.H.

A. C. CRAWFORD, M.B., Ch.B., D.P.H., D.T.M.

CATHERINE L. CORBETT, M.B., Ch.B., D.P.H.

H. L. CRONK, M.A., M.D., Ch.B., M.R.C.S., L.R.C.P., D.P.H.

(Resigned 30th June, 1929.)

R. M. GALLOWAY, M.D., Ch.B., M.R.C.S., L.R.C.P., D.P.H.

(Resigned 31st December, 1929).

S. N. GAWNE, M.D., B.Sc., M.R.C.S., D.P.H.

WINNIEFRED M. GRAY, M.A., M.B., Ch.B., D.P.H.

F. HALL, M.D., Ch.B., D.P.H., B.L.

H. HOLROYD, M.B., B.S., D.P.H.

GLADYS H. HUTCHINSON, M.B., Ch.B.

J. R. JAGGER, M.B., Ch.B., D.P.H.

G. G. JOHNSTONE, M.C., M.A., M.D., Ch.B., D.P.H.

J. H. PORTER, M.A., M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.

A. V. STOCKS, B.A., M.B., B.Ch., D.P.H.

J. A. TOMB, M.B., Ch.B., D.P.H.

A. TOPPING, M.A., M.D., Ch.B., D.P.H.

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G. G. WRAY, M.D., Ch.B., D.P.H.

S. N. WRIGHT, M.Sc., M.B., Ch.B., D.P.H.

### Dental Surgeons :

R. ACKERS, L.D.S.

H. J. APPELYARD, L.R.C.P., L.R.C.S., L.D.S.

J. B. DAVIES, L.D.S.

F. J. W. DEWHURST, L.D.S.

R. E. HODGSON, B.D.S.

J. KERSHAW, L.M.S.S.A., L.D.S.

W. A. LINNELL, L.D.S.

T. G. LLOYD, L.D.S.

I. F. McASH, L.R.C.P., L.R.C.S., L.D.S.

G. G. MACPHEE, M.A., M.B., Ch.B., L.D.S.

(Resigned 30th September, 1929).

F. D. MANNERS, L.D.S.

E. V. POLLITT, L.D.S.

A. W. POOLE, L.D.S.

T. H. WIGNALL, L.D.S.

A. CLEAVER, L.D.S. (part-time)

**Ophthalmic Surgeons (part-time):**

E. ALLAN, M.B., Ch.B.  
H. H. BYWATER, M.D., Ch.B., D. Ch.O., F.R.C.S (Edin.).  
O. M. DUTHIE, M.D., Ch.B.  
G. A. JELLY, F.R.C.S., L.R.C.P., L.S.A., D.P.H.  
N. MACINNES, M.A., M.B., Ch.B.  
H. G. PARKER, F.R.C.S.(Edin.), L.R.C.P., L.R.F.P.S.  
J. F. PENMAN, M.B., Ch.B.  
F. C. PLUMMER, M.D., Ch.B.  
G. A. RENWICK, M.B., Ch.M.  
T. SNOWBALL, M.A., M.B., Ch.B.  
W. SYKES, L.R.C.P., L.R.C.S., L.R.F.P.S.  
J. M. WISHART, M.B., Ch.B., F.R.C.S.(Edin.).

**Honorary Consulting Orthopædic Surgeon:**

SIR ROBERT JONES, Bart., K.B.E., C.B., F.R.C.S., L.L.D., D.Sc.

**Orthopædic Surgeons (part-time):**

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**Assistant Orthopædic Surgeons (part time):**

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B. L. McFARLAND, M.D., M.Ch. (Orth.), F.R.C.S.(Edin.).  
S. M. MILNER, M.A., M.B., F.R.C.S.  
H. POSTON, M.B., M.Ch.

**School Nurses and Health Visitors:**

Mrs. M. ASHTON	Miss A. LYNCH
Miss S. BEACH	Miss M. MACDONALD
Mrs. M. R. BECKETT	Miss E. MARES
Mrs. A. BIRCHALL	Miss M. R. MCLEAN
Miss A. CANTON	Miss G. MENZIES
Mrs. E. CHAMBERS	Miss I. MILNE
Miss E. CUBBIN	Miss A. I. MURPHY
Mrs. A. DEWHURST	Mrs. B. PALIN
Mrs. H. M. DEWHURST	Miss D. H. PROCTER
Miss H. DICKINSON	Mrs. L. READ
Miss M. G. DICKINSON	Miss A. REEVES
Miss M. DUDLEY	Miss M. ROBINSON
Miss P. E. DUNN	Miss D. RIGBY
Miss M. E. EVANS	Miss E. SHAW
Miss M. FAWCETT	Miss G. SIZER
Miss A. E. FRY	Miss M. SINGLETON
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Miss L. M. HARTLEY	Mrs. G. SMITH
Miss F. M. HESELTINE	Miss M. E. SMITH
Mrs. M. A. HILTON	Mrs. E. C. STRINGER
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Miss E. KNOWLES	Miss J. M. WEBSTER
Miss M. LAMB	Miss G. J. WELLARD
Miss E. M. LAWLEY	Miss S. E. WRIGHT
Miss C. E. LAYCOCK	

**Orthopædic Nurses:**

Mrs. E. J. BROMLEY      Miss E. H. ELKINGTON  
Mrs. F. WORRAL

**BIDDULPH GRANGE ORTHOPÆDIC HOSPITAL.**

**Senior House Surgeon:**

MARGARET H. GREG, M.R.C.S., L.R.C.P. (Resigned 31st January, 1930).

BARBARA M. KNIGHT, M.B., Ch.B., D.P.H.

**Junior House Surgeon:**

MOYA McAFEE, M.B., B.Ch., BaO.

**Matron:**

Miss M. ROCHELL.





## LANCASHIRE EDUCATION COMMITTEE.

### SCHOOL MEDICAL SUB-COMMITTEE.

TWENTY-FIRST  
ANNUAL REPORT  
OF THE  
COUNTY MEDICAL OFFICER OF HEALTH  
AND  
SCHOOL MEDICAL OFFICER,  
*For the Year ended 31st December, 1929.*

The following Report on the work of the School Medical Service follows in its arrangement the lines laid down by the Board of Education.

#### ADMINISTRATION.

The area of the Administrative County of Lancaster for Elementary Education purposes is 941,751 acres, and the population is 964,280, of whom the average number on the Roll of Elementary Schools is 129,538, and the average number in attendance is 112,830 ; the average attendance in the previous year was 115,831.

For Higher Education and General Purposes the population is 1,812,800, while for Child Welfare purposes it is 771,674.

The rural part of the County is mainly north of the River Ribble and to the west of a line drawn roughly from Preston to Liverpool, whilst the urban districts cluster most thickly in the southern and eastern portions of the County.

The following districts are autonomous for Elementary Education purposes and, therefore, do not come within the scope of this Report except for Higher Education :—

19 Municipal Boroughs ;

the Urban Districts of Chadderton, Farnworth, Hindley, Ince-in-Makerfield, Radcliffe, Stretford, Swinton and Pendlebury, and Waterloo-with-Seaforth.

The combined population of these Boroughs and Urban Districts is estimated to be 848,520.

Of the 683 schools for which the Lancashire Education Committee is responsible, about two-thirds are distant from the nearest railway station one to nine miles.

During the year Drs. J. Ferguson, H. L. Cronk and R. M. Galloway resigned, having obtained appointments as Medical Officers of Health for Surrey, Hampshire and Dewsbury C.B. respectively.

Whilst regretting the loss of these officers in the service of the County, they are to be congratulated on their well earned promotion.

Dr. E. H. Scholefield was appointed Chief Assistant Medical Officer in place of Dr. Ferguson, and the remaining vacancies were filled by the appointment of Drs. A. V. Stocks and J. G. Wilson. An additional Medical Officer was also appointed in the person of Dr. W. C. V. Brothwood.

The services of Dr. Macphee (resigned) have been lost to the Committee's Dental Service, and his place has been filled by the appointment of Mr. R. Ackers.

On the absorption into the County Council's Scheme of Atherton, which had formerly been responsible for its own maternity and child welfare work, Nurse M. E. Smith, who had been the Health Visitor in Atherton, was absorbed into the County Council's staff. An additional nurse, Miss J. M. Webster, was also appointed during the year.

Several small outbreaks of smallpox again interrupted considerably the work of Medical Inspection.

### CO-ORDINATION OF THE WORK OF THE SCHOOL MEDICAL SERVICE WITH THAT OF OTHER HEALTH SERVICES.

The arrangements for co-ordination have been fully described in previous Annual Reports. The Assistant School Medical Officers are Assistant Medical Officers of Health for the County, and are in touch with the Medical Officers of Health of the local Sanitary Authorities in their respective districts. The School Nurses are also Health Visitors. The following table shows the work done by the Nurses as Health Visitors during the year 1929 :—

#### HOME VISITS—

##### (Infants under one year)—

No. of 1st Visits	...	...	...	...	...	...	10,111
No. of Re-visits	...	...	...	...	...	...	45,118

##### (Children 1—5 years of age)—

No. of Visits	...	...	...	...	...	...	36,155
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#### ANTE-NATAL WORK—

##### (Expectant Mothers)—

No. of 1st Visits	...	...	...	...	...	...	2,438
No. of Re-visits	...	...	...	...	...	...	2,547

#### OTHER VISITS—

Special Visits to Older Children, Medical Officers of Health, &c.	1,317
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VISITS TO CASES OF OPHTHALMIA NEONATORUM AND OTHER MATTERS.	262
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During the year five new Child Welfare Centres were opened or taken over from Local Authorities which had joined the County Council's Scheme for Maternity and Child Welfare, and the list of those which have now been established is as follows :—

Abram	Church	Leyland (2)	Skelmersdale
Adlington	Clayton-le-Moors	Little Lever	Standish
Aspull	Clifton	Littleborough	Thornton
Atherton	Coppull	Longridge	Tottington
Audenshaw	Crompton	Litherland	Trawden
Barrowford	Dalton-in-Furness	Milnrow	Ulverston
Bamber Bridge	Davyhulme	Morecambe	Urmston
Barton	Droylsden	Norden	Walkden
Billinge	Feniscowles	Ormskirk	Waterloo
Blackrod	Fleetwood (2)	Orrell	Whalley
Briercliffe	Flixton	Oswaldtwistle (2)	Whitefield
Bromley Cross	Haydock	Padiham	Whitworth
Burtonwood	Irlam (2)	Poulton-le-Fylde	
Catforth	Kearsley	Prescot	
Chipping	Kirkham	Rishton	

Some of these Child Welfare Centres have been taken over from Local Sanitary Authorities which had previously established them, and in a few of these cases the visiting Medical Officer is the local Medical Officer of Health. In all cases, however, the Health Visitor and Superintendent Nurse of the Welfare Centre has become a School Nurse for her district in the County.

Voluntary Helpers, as in the past, continue to do good work at these Centres. Instruction in Mothercraft is given to older girls from Elementary Schools in the districts of Leyland, Longridge, Urmston, and other districts, on a definite plan arranged between the Elementary Education Department and the Medical Department. The instruction is systematic and is a very valuable training for older girls in some of their future responsibilities.



The following table gives a statistical summary of the work done in the Centres during the past year:—

SUMMARY OF ATTENDANCES, &C., AT CHILD WELFARE CENTRES DURING THE TWELVE MONTHS ENDED 31ST DECEMBER, 1929, TOGETHER WITH THE NUMBER OF BIRTHS NOTIFIED DURING THAT PERIOD.

Name of Child Welfare Centre.	No. of Times Open.	No. of Births Notified during the 12 months.	No. of individual children attending.			No. of attendances by children.			No. of attendances by expectant mothers		No. of attendances by other women.	
			Under 1 year old.	From 1—2 years old	Over 2 years old.	Under 1 year old.	From 1—2 years old	Over 2 years old.	No. of individual expectant mothers attending.	No. of actual attendances.	No. of individual women attending.	No. of actual attendances.
Abram ... ..	23	122	93	49	46	689	293	274	17	44	20	32
Adlington { ... ..	47	61	55	40	84	572	520	1011	14	156	53	128
Aspull (New Springs) ...	48	138	169	85	30	1511	591	132	50	187	40	107
(a) Atherton ... ..	34	192	191	74	25	1476	447	105	41	153	45	199
Audenshaw ... ..	48	98	121	67	60	1264	424	353	9	48	13	78
Bamber Bridge ... ..	47	77	119	55	109	825	448	839	19	88	80	274
Barrowford ... ..	48	37	64	38	47	454	96	104	2	2	10	26
Billinge ... ..	48	38	41	36	59	442	318	435	16	81	7	20
Blackrod ... ..	48	46	44	33	27	325	277	257	9	27	9	57
Briercliffe ... ..	24	16	28	24	22	159	127	90	1	1	4	4
Bromley Cross ... ..	47	15	108	46	87	857	204	215	26	65	11	41
Burtonwood ... ..	47	34	45	21	14	432	161	80	6	40	...	...
Church ... ..	46	60	127	52	56	1350	299	497	8	42	10	154
Clayton-le-Moors ... ..	45	111	81	37	28	619	304	295	10	43	33	262
Clifton ... ..	47	30	43	26	15	613	364	296	...	...	3	5
Coppull ... ..	46	90	111	69	79	1250	671	1012	23	86	...	...
Crompton ... ..	46	194	150	73	55	1590	548	390	10	31	17	21
Dalton-in-Furness ... ..	48	199	207	110	176	1379	912	995	76	404	...	...
Davyhulme ... ..	44	49	48	34	22	488	255	157	11	43	6	29
Droylsden ... ..	47	187	280	126	62	3861	962	514	16	58	17	143
Feniscowles ... ..	47	11	32	14	14	296	82	115	3	14	13	101
Fleetwood (No. 1) ... ..	48	433	156	65	97	1384	424	674	14	51	4	7
Fleetwood (No 2) ... ..	48	...	266	124	125	2735	821	855	15	74	3	7
Flixton ... ..	44	107	141	42	78	1933	412	539	20	106	20	199
Haydock ... ..	45	231	157	27	24	1556	209	157	23	69	...	...
Irlam (Prim. Meth.) ... ..	24	183	136	66	16	1003	436	105	8	20	57	431
Irlam (Long. Ldge.) ... ..	24	...	138	57	35	1062	500	262	10	34	28	256
Kearsley ... ..	48	144	182	79	85	1696	494	294	18	113	5	11
Kirkham ... ..	48	59	112	62	31	1116	506	196	3	41	13	65
Leyland (Brad. St.) ... ..	24	143	25	16	27	175	112	259	3	9	16	238
Leyland (Quin St.) ... ..	45	...	119	50	80	1016	477	957	12	109	16	456
Litherland ... ..	48	221	206	87	153	1339	442	794	17	61	6	10
Littleborough ... ..	48	120	201	108	82	2181	596	301	6	36	12	107
Little Lever ... ..	48	61	80	25	16	879	152	88	12	38	43	138
Longridge ... ..	46	54	119	71	53	1100	457	385	26	160	14	365
Milnrow ... ..	48	79	114	65	43	1488	598	211	9	36	6	126
Morecambe ... ..	46	236	171	89	87	1080	544	485	24	62	1	2
Norden ... ..	48	38	63	48	52	884	516	479	11	78	27	268
Ormskirk ... ..	46	120	112	49	75	1182	397	677	18	101	2	13
(a) Orrell ... ..	36	86	86	66	45	656	476	259	24	74	2	3
Oswaldtwistle ... ..	44	188	137	48	26	1073	205	92	28	150	59	1122
„ Belthorn ... ..	4	...	14	6	2	26	15	3	2	4	23	46
Padiham ... ..	48	166	97	44	39	682	350	216	4	7	11	20
Poulton-le-Fylde ... ..	24	44	55	46	47	425	275	313	8	27	16	21
Prescot ... ..	72	160	303	129	142	1908	460	662	56	214	9	45
Rishton ... ..	46	72	69	35	29	498	136	197	5	14	9	127
Skelmersdale ... ..	48	106	71	29	51	630	290	363	6	13	18	124
Standish ... ..	48	99	115	70	76	974	729	754	21	107	70	178
Thornton ... ..	48	177	113	54	58	1171	413	476	13	53	26	87
Tottington ... ..	47	78	65	42	52	515	271	242	9	43	9	75
Ulverston ... ..	48	126	152	81	146	1403	631	1213	40	330	...	...
Urmston ... ..	47	79	74	33	29	707	262	155	11	39	33	74
Walkden ... ..	48	82	195	64	29	1732	397	97	7	8	58	220
Waterloo ... ..	27	50	63	34	19	514	267	105	2	7	17	24
(b) Whalley ... ..	3	22	13	10	7	23	19	7	3	3	2	2
Whitfield ... ..	43	108	161	73	51	1569	447	405	4	21	...	...
Whitworth (Facit) ... ..	47	93	78	30	37	1195	500	514	18	140	10	128

(a) Included in County Scheme for Maternity and Child Welfare Work as from 1st April, 1929.

(b) Whalley Child Welfare Centre opened 2nd December, 1929.

The supply of dried milks or milk powders at the Centres is continued on the same terms as described in the Annual Report for 1925, and there is also an extensive scheme for the provision of fresh milk to expectant or nursing mothers and to young children. Every medical man agrees that the best food for the baby is the natural supply, and it is regrettable that some mothers only begin their attendances at the Centres when the natural supply has failed and artificial feeding has begun.

During the year 1929, 635,572 pints of fresh milk were supplied directly to the recipients by milk purveyors and the following tabular statement shows the amount of dried milks, cod liver oil, Virol, etc., supplied at the Centres :—

No.	Units.	Article of Foodstuff.	Cost.		
			£	s.	d.
29,185	1 lb. packets	Cow and Gate	2,178	0	4
14,152	1 lb. cartons	C.L.O. and Malt	502	3	10
12,054	8 oz. tins	Virol	602	4	0
9,712	1 lb. packets	Ostermilk	725	0	8
5,127	1 lb. packets	Glaxo	391	15	0
4,858	1 lb. packets	Ambrosia	365	8	0
3,437	1 lb. bottles	Horlick's Malted Milk	433	5	11
1,322	7 oz. tins	Virolax	66	11	2
1,298	8 oz. tins	Ovaltine	87	13	0
1,112	4 oz. bottles	Cod Liver Oil	23	3	0
759	1 lb. bottles	C.L.O. Emulsion	50	8	0
748	8 oz. bottles	Aberdeen Emulsion	27	14	4
362	8 oz. tins	Ostelin and Malt	14	4	10
419	1 lb. tins	Almata	41	15	3
301	1 lb. tins	Milkal	22	13	8
197	4 oz. tins	Lactagol	11	6	8
208	1 lb. jars	Vitamalt	13	13	8
115	1 lb. packets	Trufood	10	18	0
148	1 lb. packets	Irradiated Glaxo	12	6	8
111	1 lb. tins	New Zealand Cream	10	13	6
81	1 lb. jars	Radio Malt	5	14	9
26	1 lb. cartons	Vitamine Malt	1	4	10
15	1 lb. tins	Dextri Maltose	0	16	3
...	...	...	£5,598	15	4

Most of the foods mentioned are sold at cost price. In necessitous cases the food is supplied either free of cost or at half-price. The total loss on the foods supplied amounted to £1,032 10s. 5d.

Ante-natal Clinics are in operation at Irlam and Litherland, and arrangements have also been made with the Boroughs of Chorley and Widnes for the attendance at their Clinics of expectant mothers from the adjacent County area. These have been established with the object

(1) of reducing maternal mortality and morbidity which are still excessive.

(2) With the object of giving advice concerning the mother's diet, so that healthy babies will result from the pregnancies.

During the year expectant mothers were seen by the doctors or nurses at either Ante-natal Clinics or Child Welfare Centres on 4,390 occasions.

All cases of Ophthalmia Neonatorum, a virulent inflammation of the eyes in the newly-born, are investigated immediately. It is a standing instruction to the nurses that, if necessary, all other work must be put on one side in order that efficient treatment may be given to these cases, so that the terrible consequence of blindness may be avoided.

In addition, arrangements are in force with certain Nursing Homes and Nursing Associations to attend to cases of Ophthalmia Neonatorum at a fixed fee.



In the Public Health (Ophthalmia Neonatorum) Regulations, 1926, which came into operation on October 1st, 1926, the duty of notifying cases is placed on the Medical Practitioners. Under the rules of the Central Midwives Board it is still the duty of the Midwife to call in a Medical Practitioner in all cases of inflammation of the eyes, however slight, and to send notice thereof to the Local Supervising Authority, which is, in this case, the Midwives Act Committee of the County Council.

The Assistant School Medical Officers, in their capacity as Assistant Medical Officers of Health, have undertaken the inspection of Maternity Homes in their respective districts. During the year 29 Maternity Homes were inspected by them and the results reported to the Public Health Department of the County Council.

The County has delegated the supervision of Maternity Homes in their districts to the following Local Authorities :—

Accrington (B.)	Lancaster (B.)
Ashton-under-Lyne (B.)	Leigh (B.)
Bacup (B.)	Lytham Saint Annes (B.)
Chorley (B.)	Middleton (B.)
Clitheroe (B.)	Morecambe and Heysham (B.)
Colne (B.) <sup>1</sup>	Nelson (B.)
Darwen (B.)	Rawtenstall (B.) <sup>2</sup>
Eccles (B.)	Stretford U. D.
Heywood (B.)	Swinton and Pendlebury U. D.

## OPHTHALMIA NEONATORUM.

*Information regarding condition of Eyes, obtained by re-visits, after a lapse of from 2 months to 3 years from date of first report.*

	YEAR 1924.		YEAR 1925.		YEAR 1926.		YEAR 1927.		YEAR 1928.	
	*All "Eye Cases."	Notified as Oph. Neon.	*All "Eye Cases."	Notified as Oph. Neon.	*All "Eye Cases."	Notified as Oph. Neon.	*All "Eye Cases."	Notified as Oph. Neon.	*All "Eye Cases."	Notified as Oph. Neon.
Total number of "Eye Cases" reported to the Local Supervising Authority under the Midwives Acts ... ..	328	...	299	...	344	...	381	...	354	...
Total number of cases notified as Ophthalmia Neonatorum ...	...	154	...	147	...	172	...	211	...	164
Information regarding condition of eyes after a lapse of from 2 months to 3 years from date of first report :—									†	†
Totally Blind ... ..	1	1	...	...	...	...	...	...	...	...
One Eye Blind ... ..	...	...	...	...	...	...	...	...	...	...
R. Blind—L. Keratitis ... ..	...	...	...	...	...	...	...	...	...	...
R. Blind—L. Nebula ... ..	...	...	...	...	...	...	1	1	...	...
L. Blind—R. Nebula ... ..	...	...	...	...	...	...	...	...	...	...
R. Blind—L. Weak ... ..	2	2	...	...	...	...	...	...	...	...
L. Blind—R. Weak ... ..	...	...	...	...	...	...	...	...	...	...
R. Blind—L. Normal ... ..	2	2	1	1	...	...	...	...	...	...
L. Blind—R. Normal ... ..	1	1	3	3	...	...	...	...	...	...
R. Blind—L. Myopia ... ..	...	...	...	...	...	...	...	...	...	...
L. Blind—R. Defective ... ..	...	...	...	...	...	...	...	...	...	...
Congenital Anophthalmos ...	1	...	...	...	1	...	...	...	...	...
Nebula (both eyes) ... ..	...	...	...	...	...	...	...	...	...	...
R. Nebula—L. Normal ... ..	1	1	...	...	2	1	...	...	...	...
L. Nebula—R. Normal ... ..	...	...	...	...	1	1	1	1	...	...
L. Large Opacity—R. Normal ...	1	1	...	...	...	...	...	...	...	...
Slight Opacity (one Eye) ... ..	...	...	...	...	2	2	1	...	...	...
Corneal Opacity (both eyes) ...	...	...	...	...	...	...	...	...	...	...
Squint (both Eyes) ... ..	...	...	...	...	...	...	...	...	...	...
R. Squint—L. Normal ... ..	...	...	...	...	3	2	...	...	...	...
R. Squint—L. Nebula ... ..	...	...	...	...	...	...	...	...	...	...
L. Squint—R. Normal ... ..	...	...	2	1	2	1	...	...	...	...
Marked Internal Squint ... ..	...	...	...	...	...	...	...	...	...	...
R. Squint—Eyes discharging ...	...	...	...	...	...	...	...	...	...	...
R. Squint, Corneal Opacity— L. Normal ... ..	...	...	...	...	1	1	...	...	...	...
L. Squint, Nebula—R. Normal ...	...	...	...	...	1	1	...	...	...	...
R. Weak—L. Normal ... ..	...	...	1	1	...	...	...	...	...	...
L. Weak—R. Normal ... ..	4	1	...	...	...	...	...	...	...	...
Both Eyes Weak ... ..	1	...	5	4	...	...	1	1	...	...
Occasional Conjunctivitis ... ..	...	...	2	2	1	...	5	2	...	...
Eyes Discharging ... ..	1	1	...	...	...	...	...	...	...	...
Eyelids Inflamed ... ..	...	...	...	...	...	...	...	...	...	...
L. Blepharitis—R. Normal ... ..	1	...	...	...	1	1	...	...	...	...
Blepharitis (both eyes) ... ..	...	...	1	1	1	...	1	...	...	...
R. Defective ... ..	...	...	...	...	...	...	...	...	...	...
L. Defective ... ..	...	...	...	...	1	1	...	...	...	...
Vision Unsatisfactory ... ..	...	...	...	...	...	...	...	...	...	...
Myosis ... ..	...	...	...	...	...	...	...	...	...	...
L. Normal—R. Cataract ... ..	...	...	1	1	...	...	...	...	...	...
Adherent Iris ... ..	...	...	...	...	...	...	...	...	...	...
L. Ptosis—R. Normal ... ..	...	...	...	...	...	...	...	...	...	...
Eyes Normal ... ..	234	107	229	97	254	123	311	170	...	...
Children Deceased ... ..	39	19	32	21	35	20	26	17	...	...
Left District, No Information, or still under treatment	39	18	22	15	38	18	34	19	...	...
	328	154	299	147	344	172	381	211	354	164

\* Includes all cases in which Certified Midwives called in Medical Practitioners on account of inflammation of, or discharge from, the eyes.

† The results obtained during the year 1928 are not available at time of going to print.

For the actual confinement of women the Maternity and Child Welfare Sub-Committee and the Midwives Aet Committee have shouldered a considerable amount of responsibility. In all labours which are not following a normal course it is the duty of a Midwife to advise the summoning of a doctor, and, where the doctor has been summoned by the Midwife, the Midwives Aet Committee will pay the doctor's fees when the patient or her husband is unable to do so. Several Nursing Associations which provide Maternity Nurses are subsidised in proportion to the number of cases which they attend annually. The Maternity and Child Welfare Sub-Committee has made arrangements with twenty-one Maternity Hospitals or Homes throughout the County whereby parturient women are admitted on such terms as they can afford, the County Council paying the balance of the fee. To these Maternity Hospitals or Homes two types of cases are admitted, those in which there is any reason to anticipate an abnormal or dangerous labour, and those whose home surroundings are not such as will allow the labour to be conducted with decency or with safety to the mother. In each case a strict investigation is made into the financial circumstances before authority is granted to enter the Hospital or Home.

The following table shows the reduction in infantile mortality, per thousand births, which has taken place in recent years in the Administrative County :—

1913	...	124	1922	...	85
1914	...	112	1923	...	80
1915	...	119	1924	...	81
1916	...	99	1925	...	82
1917	...	96	1926	...	80
1918	...	100	1927	...	73
1919	...	93	1928	...	69
1920	...	91	1929	...	84
1921	...	88			

### THE CARE OF DEBILITATED CHILDREN UNDER SCHOOL AGE.

There is no Routine Inspection of these children, but inspection and treatment are available for them at Child Welfare Centres, School Clinics, Orthopaedic Clinics, Ophthalmic Clinics, Dental Clinics, and at Hospitals for the operative treatment of Tonsils and Adenoids. These children come under the observation of the School Nurse and Health Visitor in the course of the home visits and many of them are found in the Schools from the age of three onwards.

During 1929 the Nurses, as School Nurses, visited 15,473 separate homes, and as Health Visitors made 97,948 visits to homes. While the specific object of each one of these home visits may have been to see a particular child, either as school child or as a baby, all the children at home would normally be seen, especially if they were causing any anxiety to their parents or presenting obvious signs of disease. During the year 3,161 children between two and five years of age made 21,957 attendances at the Child Welfare Centres.

Children under the age of three years, and in exceptional circumstances, from three to five years, can be provided under the County Council Maternity and Child Welfare Scheme with fresh or dried milk, cod liver oil and malt or Virol at cost price, less than cost price, or free, when they are certified by the Medical Officers in charge of the Child Welfare Centres to require extra nourishment.

During the last financial year a sum of £8,000 was so spent on these children.

In districts where the County Council is the Authority which is responsible for Maternity and Child Welfare, all the facilities provided for the care and treatment of school children are available for children who are not yet of school age. It is the practice of the School Medical Sub-Committee of the Education Committee and of the Maternity and Child Welfare Sub-Committee of the Public Health Committee to make identical arrangements for the treatment of the children for whose care they are respectively responsible, financial adjustments between the two Committees being made according to very simple regulations. For example, the scheme for dealing with Cripples is a joint scheme of the School Medical Sub-Committee and of the Maternity and Child Welfare Sub-Committee, and treatment is available for the child, whatever its age. Where dental facilities have been provided they are available for expectant and nursing mothers and for children under school age.

### PLAYGROUNDS.

The Committee have included an amount in their Estimates for 1930-1931 in order to make contributions towards the cost of putting down a new class of surface to the playgrounds of non-provided schools where the existing surface is of earth or cinders.



The resumption of the Committee's assistance to managers has had the effect, in many schools, of improving the amenities of the children and of obtaining a better standard of cleanliness in the schools where such improvements are carried out.

In the new schools projected the policy of the Committee is as follows :—

*Size of Sites for Schools.*

The areas given below are considered as the minimum requirements for sites for new Elementary Schools. It is assumed that the shape and situation of the site provide facilities for economical planning of the building, playgrounds and playing-fields.

The schools are grouped in three divisions according to the number of children accommodated :—

(I.) If provision is made for 200 children—

Area required : Minimum area for building and play-ground (as required by Board of Education) ...	¼-acre
Add : School Garden and Infants' Plot ...	1000 sq. yards
Special Subjects Rooms ...	200 „
Playing-field ...	2 acres
Total ...	2½ acres

A playing-field of this size would give room for one football or hockey ground, and for minor games such as rounders or net-ball.

(II.) If provision is made for 400 children—

Minimum area required : 3½ acres.

This will give a larger area for the building, playground, school garden, and Special Subjects Centre, with one football or hockey ground, a cricket pitch, and space for minor games.

(III.) If provision is made for 600 children—

Minimum area required : 4½ acres.

This allows for separate football and hockey grounds, in addition to the facilities given above.

*Addition for a Group of Schools.*

If a playing-field is to be used for Organised Games by a number of schools in addition to the school to which it is attached, about three acres additional to the figures given above would be needed.

*Central Schools.*

As all the pupils will be eleven years of age or over the minimum area of a site for this purpose should be five acres.

### SCHOOL HYGIENE.

There is room for great improvement in the cleanliness of the schools. Care-takers are frequently untrained and, in non-provided schools at any rate, only give part time service. In addition their work is frequently undone by the use or misuse which is made of the schools out of school hours. Occasionally structural defects like unplastered walls, uncovered rafters, rough floors, inaccessible ledges and heavy furniture give rise to an accumulation of dust which is merely disturbed by spasmodic efforts aimed at its removal and soon settles again in the same situations.

The following list shows some of the minor improvements in school premises which have been carried out during the year :—

NOTE.—The item “reflooring” is intended to cover either the whole school floor or a classroom.

District No.	Name of School.	Particulars of Improvements.
1	Ulverston C.E. ...	Improvements to gas lighting.
	Upper Allithwaite, Lindale C.E. ...	Reflooring and alterations to offices.
	Pennington (Ulverston) ...	Do.
	Dalton-in-Furness Chapel Street C.	Alterations to offices.
	Dalton-in-Furness Broughton Road Council	Do.
2	Over Kellet Endowed ...	Reflooring.

District No.	Name of School.	Particulars of Improvements.
3	Kirkland, Garstang, Churchtown Parochial Forton Council ... .. Bilsborrow John Cross C.E. ...	Do. Three new fireplaces. Provision of lavatory basin.
4	Thornton Cleveleys Church Road C. Thornton Cleveleys Beach Road C. Fleetwood Blakiston Street C. ...	Reflooring. Installation of electric light. Improved sanitary arrangements. Additional lavatory bowls. New urinal.
5	Westby Ballam C.E. ... .. Ribby-with-Wrea Endowed ... .. Freckleton C.E. ... .. Kirkham and Wesham Council ...	Reflooring. Installation of electric light. Reflooring and installation of electric light. Installation of electric light.
6	Longridge Girls' and Infants' C.E. Longridge R. Smith's Boys' C.E. ... Woodplumpton, Catforth Council  Woodplumpton, Catforth St. Robert's R.C. Longridge St. Wilfrid's R.C. ...	Reflooring. Do. Provision of water supply and improvement of ventilation and extension of classrooms. Reflooring. Erection of partition.
7	Walton-le-Dale, Bamber Bridge Wesleyan Walton-le-Dale School Lane C.E. Little Hoole, Walmer Bridge ... .. Farington Endowed ... .. Tarleton C.E. ... .. Walton-le-Dale, Brownedge, Tardygat R.C.	Reflooring. Installation of electric light. Do. Reflooring. Installation of electric light. Erection of partition.
8	Chatburn ... ..	Provision of hoppers
9	Clayton-le-Moors R.C. ... .. Rishton Wesleyan ... .. Rishton St. Peter's and St. Paul's Oswaldtwistle Hippings Vale C.E. Oswaldtwistle New Lane C.E. ... ..  Oswaldtwistle R.C. ... .. Oswaldtwistle Stanhill St. Matthew's	Renewal of lavatory basins. Reflooring. Do. Do. Reflooring and installation of electric light. Reflooring. Reflooring and installation of electric light.
10	Tockholes ... .. Livesey, Feniscowles Council ...	Reflooring. Paving to side portion of playground.
11	Worsthorne Council... ..	General improvements.
12	Barrowford Central Council ...	Removal of galleries.
14	Withnell Fold Wesleyan ... .. Withnell United Methodist ... .. Wheelton Council ... .. Anderton St. Joseph's R.C. ... .. Heskin Pemberton's Grammar ... .. Wheelton C.E. ... ..	Installation of electric light. Reflooring and erection of partition. Installation of electric light. Reflooring. Do. Provision of hoppers.
15	Leyland St. James's C.E. ... .. Leyland St. Mary's R.C. ... .. Hoghton ... .. Clayton Green R.C. ... ..  Whittle-le-Woods C.E. ... .. Bretherton Endowed C.E. ... ..	Reflooring. Do. Do. Reflooring and installation of electric light. Reflooring. Provision of hoppers. Erection of storeroom.

District No.	Name of School.	Particulars of Improvements.
16	Ormskirk St. Anne's C.E. ... .. Bispham (Ormskirk) Free Gram. ... Lydiat R.C.... ... ..	Reflooring. Do. Provision of cloakroom.
18	Standish-with-Langtrec, Standish Girls' and Infants' Parbold R.C. ... .. Dalton C.E. ... .. Shevington Crooke Council ... Shevington Broad o'th' Lane C. ...	Reflooring. Do. Do. New exit from girls' cloakroom. Conversion of classroom into Practical Instruction Room.
19	Upholland Digmoor... .. Upholland Moor ... .. Upholland Roby Mill C.E. ... Upholland Infants' ... .. Upholland Village Mixed ... .. Billinge and Winstanley C.E. ... Ashton-in-Makerfield Rectory C.E. Ashton-in-Makerfield St. Peter's C.E. Ashton-in-Makerfield Evans' C. ... Abram, Bryn Gates Council ... Orrell St. James' Road Council ... Ashton-in-Makerfield Rectory C.E.	Installation of electric light. Do. Do. Do. Do. Do. Reflooring. Do. Folding partitions in Mixed and Infants' Departments. Installation of electric light. Do. Erection of partition.
20	Turton Walmsley C.E. ... ..	Installation of electric light.
21	Horwich Our Lady's R.C. ... .. Horwich St. Catherine's C.E. ... Westhoughton Hart Common C.E.  Westhoughton, Hulton C.E. ...	Reflooring. Do. Reflooring and installation of electric light. Reflooring. Improvement of ventilation.
22	Clifton Council ... .. Kearsley St. John's ... .. Kearsley New Jerusalem ... ..	Reflooring and improvement of playground surface. Provision of new W.C.'s Provision of additional sanitary conveniences.
23	Ramsbottom Holcombe C.E. ... Ramsbottom Hazlehurst Council ... Ramsbottom Peel Brow Council ...	Reflooring. Removal of gallery. Fitting up of Science Room.
24	Tottington Walshaw C.E. ... .. Tottington Affetside ... ..	Installation of electric light. Alteration to offices.
25	Prestwich Simister Lane Lady Wilton's C.E. Prestwich Hope Park Council ... Prestwich Parish C.E. ... ..	Reflooring and improvements to gas lighting. Provision of pantry in Domestic Subjects Centre. Provision of new window.
26	Littleborough Dearnley C.E. ... Milnrow C.E. ... .. Milnrow Newhey C.E. ... .. Wardle Smallbridge C.E. ... .. Whitworth C.E. ... .. Littleborough Shore Council ... Littleborough Central Council ...	Reflooring. Do. Do. Do. Do. Conversion of earth closets to W.C.'s. Provision for serving meals.



District No.	Name of School.	Particulars of Improvements.
27	Crompton, Shaw St. Joseph's R.C.	Reflooring and installation of electric light.
	Royton St. Anne's C.E. Central ...	Installation of electric light. Conversion of Classroom into Practical Instruction Room.
	Royton Blackshaw Lane Council ...	Installation of electric light.
28	Litherland Lander Road Council ...	Removal of gallery.
	Formby St. Peter's C.E. ...	Installation of electric light.
	Litherland Lander Road Domestic Subjects Centre	Replacement of lead sinks by earthenware.
	Kirkby C.E. ...	Provision of lavatory accommodation.
29	Rainford R.C. ...	Installation of electric light.
	Rainford Crank Hill C.E. ...	Do.
	Windle Moss Bank ...	Do.
	Bold Heath C.E. ...	Reflooring.
	Knowsley C.E. ...	Improvements to ventilation.
30	Newton-in-Makerfield Crow Lane Infants'	Installation of electric light.
	Newton-in-Makerfield St. Peter's ...	Do.
31	Tyldesley Central C.E. ...	Reflooring.
	Atherton Bolton Road ...	Do.
	Astley C.E. ...	Do.
	Astley Gin Pits Infants' Wesleyan	Conversion of gallery into platform.
32	Golborne Parochial ...	Installation of electric light.
	Golborne R.C. ...	Do.
33	Urmston English Martyrs' R.C. ...	Installation of electric light.
	Davyhulme C.E.? ...	Reflooring.
	Davyhulme, Barton-upon-Irwell ...	Installation of electric light.
35	Denton, Haughton St. Anne's C.E.	Installation of electric light.
	Audenshaw Wesleyan ...	Reflooring.
	Woodhouses Undenominational ...	Installation of electric light.
	Woodhouses C.E. ...	Do.

During the year a series of lectures have been delivered to the Second Year Students in Training at the Sedgeley Park College, Manchester, by the Assistant County Medical Officer, Dr. W. M. Gray. The lectures which were begun in February were continued until May, at intervals of about once a week. The course comprised certain sections of the Board of Education's Syllabus for the teaching of Hygiene to Students in Training and included talks on :—

*Training the Child in the Practice of Hygiene*, with special reference to the relation of hygiene teaching to the curriculum generally.

*Common Ailments of School Children*, e.g., Headache, Fatigue, Tonsils and Adenoids, Skin diseases and Dental diseases, &c.

*Special Groups of School Children*, e.g., Blind, Deaf, Mentally Defective, Physically Defective, &c., and also the methods employed in dealing with such cases.

*The Work of School Medical Service*.—The objects and methods of the Medical Inspection of Schools and school children were fully dealt with, and special reference was made to the part which may be taken by the teacher in co-operation, in following up and in the matter of first-aid—minor injuries.

*School Buildings and Surroundings*.—The various types of school buildings were fully described, and the conditions of a healthy school explained. Ventilation, lighting, warming and the sanitary arrangements were all discussed in detail.

*Welfare of Infants and Young Children*.—The work of the Welfare Centre, Nursery School, Day Nurseries was dealt with, and arrangements were made for the students to visit one of the County Welfare Centres. The students were advised to get in touch with the various social organisations and to visit the various Centres and Clinics during their vacation. The Principal was to arrange for her students to visit in small groups the schools and workshops for the deaf and dumb and see the excellent results of the work carried on by Mr. Spalding and staff.

### **CLOAK-ROOM ACCOMMODATION.**

Attention is called by some Medical Officers to the need for proper drying accommodation in the schools. It is a common thing to find that the cloak-room is at the entrance or acts as a porch for the whole school. The outer door is generally left open and any wet overcoat hung up is bound to be still wet and cold when the child comes to put it on when leaving school. It is still necessary to point out that clothes pegs set too near together facilitate the transfer of vermin from one garment to another. There ought to be as much supervision on the disposal of garments as on the disposal of books.

### **VENTILATION.**

In the newer schools ample provision is made for cross ventilation generally. The difficulty in providing efficient ventilation is bound up with the difficulty in keeping the room warm in wintry weather. If ventilation is to be free and efficient a greater heating area in the way of hot water radiators will be required. Frequently no radiators at all are found and the ventilation therefore suffers in the efforts to keep the room at a reasonable temperature. In such cases the intermittent scheme of ventilation is better than a continuous flow of cold air into an inadequately heated room. In exceptional circumstances therefore, in cold wintry weather the windows should be opened wide for a few seconds at half hourly intervals and during this short period vigorous arm exercises should be given to the children. The closest attention should be paid in the case of heating apparatus to the situation of the furnace, so that fumes from this may have no chance of entering the school. It may not be out of place to mention that a deadly poisonous gas is given off from some stoves and furnaces.

### **LAVATORY ACCOMMODATION.**

Wash basins are generally provided, but seem to be regarded by the children, in some cases, as receptacles for all the rubbish that can be put into them, with the result that the outlets are frequently found to be blocked. It is still necessary to urge the provision of more soap and towels and the practical demonstration of their correct use.

### **EQUIPMENT.**

The substitution of desks by tables and chairs takes place when ever practicable. This is of considerable assistance to the caretaker, whilst being more comfortable for the children.

### **ARRANGEMENTS FOR WARMING FOOD AND SERVICE OF MEALS IN SCHOOLS.**

Nearly all schools have now facilities for making hot drinks and many of them have also facilities for warming any food which may be brought for the mid-day meal.

The following is an extract from a Report to the Education Committee :—

#### **DINING ARRANGEMENTS IN SCHOOLS.**

##### *1.—Extension of Arrangements for School Meals.*

The isolated position of many of the Committee's schools and the comparatively long distances which some of the children attending such schools have to travel before they arrive has always made it necessary in these cases to arrange for facilities to be provided for certain children to take their mid-day meal in school. This necessity has been increased by the transfer of the older children in connection with the schemes of re-organisation in the County Area, and much attention has been given by the Committee's Officers to the arrangement of suitable provision for meals.

##### *2.—Provision of Equipment.*

The meal taken at mid-day either consists of food brought from home, which can be heated at school, or arrangements are made for supplying a cooked meal at a small charge. In both cases the apparatus and equipment are supplied by the Committee, and in all new schools a special kitchen is provided ; this kitchen contains a stove or oven, a sink, a boiler for hot water, a potato peeler, and a drying rack for plates and dishes. For the dining room folding tables and chairs, crockery, cutlery and table-cloths are supplied.

##### *3.—Provision of Cooked Meal.*

Possibly the most interesting feature of the attention now being paid to the mid-day meal is the development in the provision of a cooked meal, and a brief account is given of a scheme which has been in operation in one of the Committee's schools for the last two years. The scheme is part of the practical work of the girls over 13 years of age who in turn calculate the quantities of food required each day, do the necessary shopping, sell the dinner tickets, and keep accounts of all purchases and sales. The cost of a single ticket in this case is 4d., and a weekly ticket may be



obtained for 1s. 6d. ; in other cases the cost varies from 3d. to 4½d. per day. A paid woman cook is engaged ; she prepares and cooks the dinner and washes the dishes after the meal. The whole cost is covered from the sale of tickets, and a small balance is left to meet replacements owing to breakages.

The tables are set up by the older boys, and they are then laid by the older girls, being decorated with flowers and plants, the average number of children present being 65. A senior boy or girl acts as a monitor at each table, sitting at the head and being responsible for the behaviour of the children at the table. Teams of senior boys and girls wait alternately on the diners, and the whole is supervised by the teachers in turn.

A bill of fare based upon a dietary approved by the School Medical Department has been supplied by the Committee's Domestic Subjects' Organiser ; it provides for a large variety of dishes, and a list of suggested dinners is given which covers a period of eight weeks during which no two weeks are alike. In addition to the list of meals, suggestions as to suitable dishes, hints on cooking, and the quantities required for varying numbers of children are given. A typical week is given below :

Monday	... Roast beef, potatoes and green vegetables.
Tuesday	... Bone soup with vegetables ; syrup pudding.
Wednesday	... Lancashire hotpot ; fruit.
Thursday	... Sausage and potatoes ; milk pudding.
Friday	... Potato pie ; fruit.

On certain days Horlick's Milk is served after the meal, and in Summer this is varied with freshly-made lemonade.

#### 4.—*Result of Scheme.*

The scheme has been in every way successful ; the parents know that their children are being provided with a substantial meal at small cost and under good conditions, and they have in many ways shown their appreciation of the scheme. Practically all the children from a distance take the meal, and there has never been any falling off in the numbers ; it is found that the children benefit greatly from the facilities provided, and the working of the scheme gives a practical bias to the instruction of the older girls and affords useful points of contact with other branches of the school work, especially with Gardening and Arithmetic. In addition, the tasteful serving and conduct of the meal gives opportunities for training in social manners and hygiene, which are fully used.

Special note should be made of the interest taken in the schemes by the teachers of all the schools where mid-day meals are being provided. The meals are entirely self-supporting, and much thought and care are necessary to ensure that no loss is incurred and that the dinners shall be such as are likely to be tempting to the children and to be ample for their needs. The success which is being attained everywhere is a striking testimony to the enthusiasm and care with which the schemes are being carried out.

### MEDICAL INSPECTION.

#### ARRANGEMENTS FOR AND METHODS OF INSPECTION.

The following Table shows the number of Schools, Departments, &c., on December 31st, 1929 :—

No. of Council Schools	...	...	...	...	144	
No. of Non-provided Schools	...	...	...	...	539	
Total number of Schools	...	...	...	...	—	683
No. of Departments in Council Schools	...	...	...	...	215	
No. of Departments in Non-provided Schools	...	...	...	...	709	
Total number of Departments	...	...	...	...	—	924
Accommodation	...	...	...	...	...	196,477
Average number on Roll	...	...	...	...	...	129,538
Average Attendance	...	...	...	...	...	112,830
No. of Teachers (excluding Pupil Teachers and Student Teachers)	...	...	...	...	...	4,186

During the year under review the Administrative County was divided into 19 districts, each of which was in charge of an Assistant County Medical Officer, assisted by two or three Nurses and Health Visitors, who prepare the children for examination, inspect their persons and clothing for uncleanness and vermin, and follow up the cases recommended for treatment. At the routine inspections, which take place, as a rule, annually, the children examined are those entering school life, those about to leave, and those in the middle of their school career. These are the routine groups. In addition, there are inspected special cases, viz., those in whom some defect is suspected by Medical Officer, Nurse, Teacher, School Attendance Officer, or parent ; and the group of re-examinations, viz., those whom the Medical Officer has decided at the previous examination to keep under observation, whether or not they have been recommended for treatment. This latter group is also seen at other visits than the routine visits, as frequently as opportunity permits.



It is manifestly impossible to make an exhaustive examination of a child on the school premises. Children suspected to be suffering from defects unascertainable in a school classroom are referred, where possible, to the School Clinic for further examination. If no Clinic is available, they are referred to their own doctor, with an indication to the latter of the point requiring investigation. Such cases, however, are not numerous, and the usual defects found in children can be diagnosed on the school premises.

The cards, on which defects are recorded, are kept on the school premises in places of security, and not at the Central Offices. The Medical Officers are assisted by women clerks who, when not engaged at School Clinics or Child Welfare Centres or similar work, keep all the records in order and compile summaries for use at the Central Offices. In addition to the work done at the annual routine inspection the Nurses visit the schools four times a year, or as often as possible, for the purpose of examining all the children with regard to cleanliness and for following up cases recommended for treatment.

The following Tables show the work done in the Elementary Schools by the Assistant Medical Officers and Nurses during 1929 :—

#### ROUTINE MEDICAL INSPECTION OF ELEMENTARY SCHOOLS.

No. of Schools visited	...	...	...	...	570
No. of Departments visited	...	...	...	...	777
No. of "Entrants" examined—					
Boys	...	...	...	6,479	
Girls	...	...	...	6,408	
					12,887
No. of "Intermediates" examined—					
Boys	...	...	...	7,000	
Girls	...	...	...	6,716	
					13,720
No. of "Leavers" examined—					
Boys	...	...	...	5,214	
Girls	...	...	...	5,125	
					10,335
No. of "Specials" examined—					
Boys	...	...	...	4,915	
Girls	...	...	...	4,822	
					9,737
No. of Children examined ("Entrants," "Intermediates," "Leavers," and "Specials")—					
Boys	...	...	...	23,608	
Girls	...	...	...	23,071	
					46,679
No. of Children re-examined...	...	...	...	...	13,400
No. of Parents interviewed as part of the systematic inspection	...	...	...	...	5,341
No. of Homes visited	...	...	...	...	206

The above table refers only to the work done at routine medical inspections.

The following table shows the work done in Elementary Schools by the Medical Officers at visits other than routine visits :—

No. of Schools re-visited	...	...	...	...	671
No. of re-visits paid to schools	...	...	...	...	960
No. of children examined at re-visits	...	...	...	...	17,378
No. of children recommended for specific medical treatment	...	...	...	...	2,508
No. of parents interviewed at school	...	...	...	...	368
No. of homes visited	...	...	...	...	831

The following table shows the work done in Elementary Schools by the Nurses ; it does not include visits or work done when they were accompanying the Medical Officers :—

No. of visits paid to schools	...	...	...	...	4,282
No. of children examined	...	...	...	...	186,653
No. of children verminous	...	...	...	...	8,334
No. of children with ringworm	...	...	...	...	441
No. of parents interviewed at school	...	...	...	...	1,083
No. of homes visited	...	...	...	...	15,473

The Register of Defective Children—cripples, blind, deaf and dumb, epileptics and mental defectives—has been kept up-to-date, and the Table will be found at the end of this Report.

The Teachers, Heads and Assistants, are extremely helpful in the work of Medical Inspection, and it may now be said that there are few instances in the whole County where the teachers do not take a great interest in the work and render valuable assistance by noting defects and giving what help they can to remedy them.

### FINDINGS OF MEDICAL INSPECTION.

The following tables show the findings of the routine medical inspection, *i.e.* the formal and systematic inspection made annually of all the age groups prescribed by the Board of Education.

The first table shows in percentages the results of the inspection of these routine groups only :—

		ENTRANTS. (Ages 3, 4, and 5.)		INTER- MEDIATES. (Age 8.)		LEAVERS. (Ages 12, 13, and 14.)	
		Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
No. Examined .....		6479	6408	7000	6716	5214	5125
Mental Condition.	Children having Defects.....	58.4	58.5	58.3	61.0	50.4	54.7
	Dull and Backward ..... T	...	...	...	...	...	...
	Feeble-minded ..... O	0.7	0.7	1.4	1.1	1.6	1.2
	Imbeciles ..... T	...	...	0.01	...	...	...
	Idiots ..... O	0.1	0.08	0.1	0.1	0.4	0.2
	Malnutrition ..... T	...	...	...	...	...	...
	..... O	...	...	0.03	0.03	0.04	0.04
	..... T	...	...	...	...	...	...
	..... O	...	...	...	...	...	...
	..... T	0.2	0.2	0.1	0.1	0.06	0.08
Unclean- liness.	..... O	2.3	1.7	2.6	2.0	1.5	1.2
	Head ..... T	0.4	2.5	0.5	2.7	0.2	1.4
	Body ..... O	1.2	7.6	1.3	10.7	0.7	7.0
	..... T	0.3	0.5	0.4	0.2	0.3	0.2
	..... O	0.9	0.9	0.8	0.7	0.7	0.6
	Ring- worm. { Head ..... T	0.3	0.2	0.2	0.06	0.1	0.04
	Body ..... O	0.05	0.02	...	...	...	...
	..... T	0.1	0.05	0.1	0.04	0.1	0.04
	..... O	...	...	...	...	...	...
	Scabies ..... T	0.05	0.1	0.09	0.03	0.04	0.04
Skin.	..... O	0.03	...	...	0.01	...	...
	Impetigo ..... T	1.5	1.2	0.9	0.8	0.8	0.5
	..... O	0.4	0.2	0.4	0.1	0.06	0.04
	Other Diseases ..... T	0.8	0.5	0.7	0.5	0.6	0.6
	(Non-Tubercular) ..... O	0.8	0.7	0.5	0.5	0.7	0.5
	Defective Vision ..... SP	0.4	0.6	4.5	6.2	5.6	7.2
	..... O	0.5	0.5	6.4	6.8	7.4	8.4
	Squint ..... T	1.1	1.1	0.6	0.4	0.4	0.4
	..... O	1.1	1.3	0.9	0.8	0.8	0.5
	Conjunctivitis ..... T	0.3	0.1	0.3	0.3	0.2	0.2
Eye Diseases.	..... O	0.7	0.4	0.5	0.4	0.5	0.4
	Blepharitis ..... T	0.6	0.5	0.7	0.6	0.5	0.5
	..... O	0.8	0.7	0.4	0.4	0.4	0.3
	Keratitis ..... T	0.01	...	...	0.01	0.02	0.02
	..... O	0.01	...	...	0.01	0.02	0.02
	Corneal Opacities ..... T	0.01	...	0.01	0.01	...	0.06
	..... O	0.09	0.06	0.2	0.1	0.5	0.04
	Corneal Ulcer ..... T	...	0.02	...	...	...	0.02
	..... O	0.01	...	0.01	...	...	...
	Defective Hearing..... T	0.08	0.2	0.3	0.2	0.3	0.3
Ear Diseases.	..... O	0.3	0.3	0.5	0.4	0.5	0.5
	Otitis Media ..... T	0.7	0.6	0.4	0.5	0.9	0.6
	..... O	0.09	0.08	0.2	0.06	0.1	0.1
	Other Ear Diseases ..... T	0.1	0.2	0.4	0.4	0.4	0.3
	..... O	0.1	0.1	0.2	0.1	0.2	0.3

		ENTRANTS. (Ages 3, 4, and 5.)		INTER- MEDIATES. (Age 8.)		LEAVERS. (Ages 12, 13, and 14.)	
		Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Nose and Throat.	Enlarged Tonsils .....	T 1.6	1.5	1.6	1.7	1.4	2.1
		O 12.3	13.7	9.7	11.7	9.0	10.4
	Adenoids.....	T 0.2	0.3	0.3	0.3	0.2	0.2
		O 1.5	1.3	1.3	1.2	0.7	0.3
	Enlarged Tonsils and Adenoids..	T 1.6	1.3	0.9	1.5	0.7	0.8
		O 2.8	2.7	1.6	1.5	0.7	0.8
Teeth.	Enlarged Cervical Glands .....	T 0.1	0.05	0.07	0.01	0.06	0.02
	(Non-Tubercular)	O 10.1	8.8	10.9	8.4	6.9	4.1
	Defective Speech .....	T ...	...	...	0.01	0.1	...
		O 0.8	0.7	0.5	0.1	0.3	0.2
	Four or more Carious .....	T 12.5	12.3	12.6	12.7	7.1	8.3
		O 10.7	10.7	10.7	9.4	3.6	3.2
Heart and Circulation.	Sepsis .....	T 0.3	0.3	0.3	0.3	0.4	0.5
		O 0.4	0.5	0.2	0.1	0.06	0.08
	Organic .....	T 0.05	0.03	0.06	0.07	0.08	0.2
		O 0.4	0.5	0.5	0.6	0.7	1.1
	Functional .....	T ...	...	0.03	0.01	...	...
		O 2.3	1.6	2.1	2.2	2.3	3.1
Lungs.	Anæmia .....	T 0.2	0.08	0.2	0.2	0.1	0.08
		O 0.7	0.6	0.7	0.5	0.3	0.5
	Bronchitis .....	T 0.9	0.6	0.4	0.3	0.1	0.3
		O 3.8	2.6	2.1	1.2	1.5	0.7
	Other Non-Tubercular Diseases..	T 0.05	0.08	0.03	0.01	0.02	0.02
		O 0.8	0.7	0.8	0.8	0.4	0.4
Tuberculosis.	Pulmonary.	Definite .....	T ...	...	...	0.02	...
			O ...	...	...	...	0.02
		Suspected .....	T 0.01	...	0.03	0.04	0.02
			O 0.05	0.08	0.1	0.09	0.1
	Non-Pulmonary.	Glands.....	T 0.01	0.06	0.04	...	0.02
			O 0.08	0.08	0.07	0.09	0.1
		Spine .....	T ...	...	...	...	...
			O ...	0.02	0.03	...	0.06
		Hip .....	T ...	...	...	...	...
			O 0.01	...	...	...	0.04
		Other Bones and Joints	T 0.01	...	...	...	0.04
			O ...	...	...	...	...
		Skin .....	T 0.03	0.02	0.07	...	...
			O 0.06	0.05	...	...	...
Nervous System.	Epilepsy .....	T ...	...	...	...	0.04	...
		O 0.03	0.03	0.04	0.03	0.1	0.04
	Chorea.....	T 0.05	...	0.03	0.03	...	...
		O 0.08	0.09	0.01	0.09	0.02	0.06
	Infantile Paralysis.....	T 0.05	0.06	0.03	...	0.02	...
		O 0.06	0.05	0.1	0.09	0.04	...
Deformities.	Rickets .....	T 0.4	0.2	0.09	0.01	0.04	0.06
		O 1.6	1.3	0.6	0.3	0.1	0.2
	Spinal Curvature .....	T 0.05	0.03	0.07	0.07	0.02	0.1
		O 0.1	0.2	0.2	0.1	0.4	0.2
	Other Forms .....	T 0.4	0.4	0.4	0.4	0.6	0.7
		O 2.1	1.4	1.9	1.5	2.6	2.0
	Other Diseases or Defects .....	T 0.9	0.7	1.0	0.7	1.1	1.6
		O 2.2	2.3	1.9	2.1	2.7	3.8

In addition, there are also carefully examined a group of children who are known as "Specials." These children do not fall within one of the prescribed age groups, but are specially presented, as possibly having defects, by teachers, school attendance officers, parents, &c, or are picked out by the medical officer or nurse in a general inspection of the school. The number of "Specials" examined was 9,737.



The following table shows the results of the examination of the "Specials" group in 1929 :—

## SPECIAL CASES.

		Boys.	Girls.			Boys.	Girls.
No. Examined .....		4915	4822				
Children having Defects.....		2967	3022				
Mental Condition.	Dull and Backward .....	T	...	Nose and Throat.	Enlarged Tonsils .....	T	91 121
	Feeble-minded .....	O	94 48		Adenoids.....	O	409 462
	Imbeciles .....	T	...		Enlarged Tonsils and Adenoids..	T	18 15
	Idiots .....	O	21 6		Enlarged Cervical Glands .....	O	64 40
	Malnutrition .....	T	...		(Non-Tubercular)	T	74 94
		O	...		Defective Speech .....	O	150 116
Uncleanliness.	Head .....	T	...	Teeth.	Four or more Carious .....	T	4 3
	Body .....	O	...		Sepsis .....	O	270 241
	Ring-worm. { Head .....	O	38 22		Organic .....	T	317 293
	Body .....	O	...		Functional .....	O	402 387
	Scabies .....	T	5 7		Anæmia .....	T	8 5
		O	...		Bronchitis .....	O	55 46
Skin.	Impetigo .....	T	...	Lungs.	Other Non-Tubercular Diseases..	O	156 135
	Other Diseases (Non-Tubercular) .....	O	...		Pulmonary. { Definite .....	T	6 7
	Defective Vision .....	T	...		Suspected .....	O	38 40
	Squint .....	O	...		Glands.....	T	14 12
	Conjunctivitis .....	O	...		Spine .....	O	116 75
	Blepharitis .....	T	...		Hip .....	T	1 4
Eye Diseases.	Keratitis .....	O	...	Tuberculosis.	Other Bones and Joints .....	O	8 10
	Corneal Opacities .....	T	...		Skin .....	T	...
	Corneal Ulcer .....	O	...		Non-Pulmonary. { Definite .....	O	...
	Defective Hearing.....	T	...		Suspected .....	T	4 1
	Otitis Media .....	O	...		Glands.....	O	5 4
	Other Ear Diseases .....	T	...		Spine .....	T	3 12
Ear Diseases.		O	...	Nervous System.	Hip .....	O	...
		T	...		Other Bones and Joints .....	T	...
		O	...		Skin .....	O	2 1
		T	...		Epilepsy .....	T	4 2
		O	...		Chorea.....	O	1 1
		T	...		Infantile Paralysis.....	T	9 7
Deformities.		O	...	Deformities.	Rickets .....	O	5 11
		T	...		Spinal Curvature .....	T	7 8
		O	...		Other Forms .....	O	3 6
		T	...		Other Diseases or Defects .....	T	2 2
		O	...			O	86 37
		T	...			T	4 6

In addition to the children who were examined at routine inspections, and whose defects are classified in the preceding tables, the Medical Officers re-examined 13,400 children who had been found defective at previous inspections. They also paid 960 re-visits to schools and examined 17,378 children; of these, 2,508 were recommended for specific medical treatment. The classification of these children into age groups or defect categories would serve no useful purpose, and has, therefore, not been made.

## REVIEW OF FINDINGS

During the year the Routine Examination of Entrants, Intermediates, and Leavers has continued as in former years.

In certain of the diseases the percentages of all these groups have been added together and form the basis of comparison with previous years.

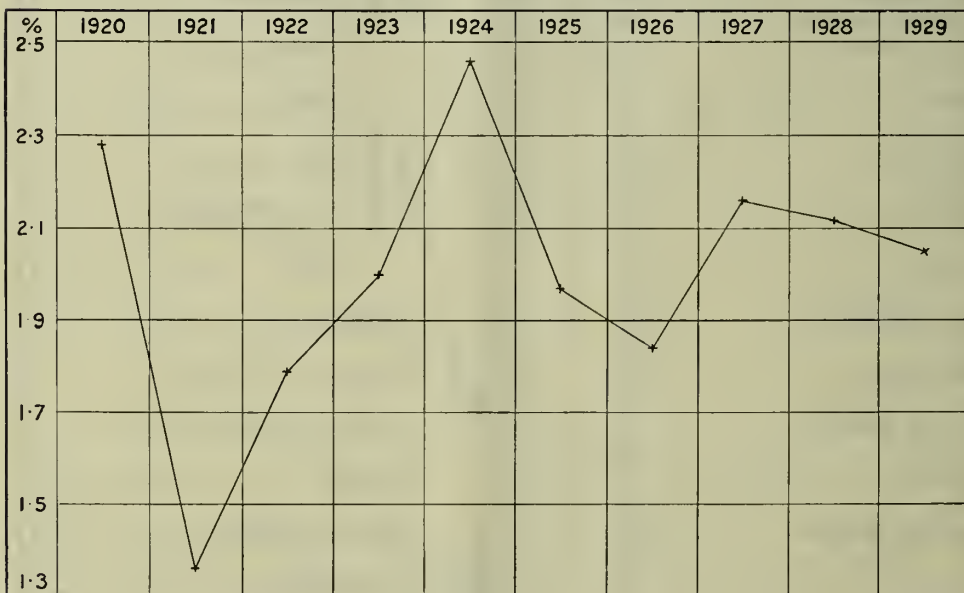
### MALNUTRITION.

For 1929 the percentage is 2.05, showing a slight fall from the percentage of the previous year.

The percentages for the years 1920-1929 are amongst Routine cases only, and are those of the grosser degrees of under-nourishment.

Year.					%
1920	...	...	...	...	2.28
1921	...	...	...	...	1.36
1922	...	...	...	...	1.81
1923	...	...	...	...	2.0
1924	...	...	...	...	2.46
1925	...	...	...	...	1.97
1926	...	...	...	...	1.84
1927	...	...	...	...	2.16
1928	...	...	...	...	2.12
1929	...	...	...	...	2.05

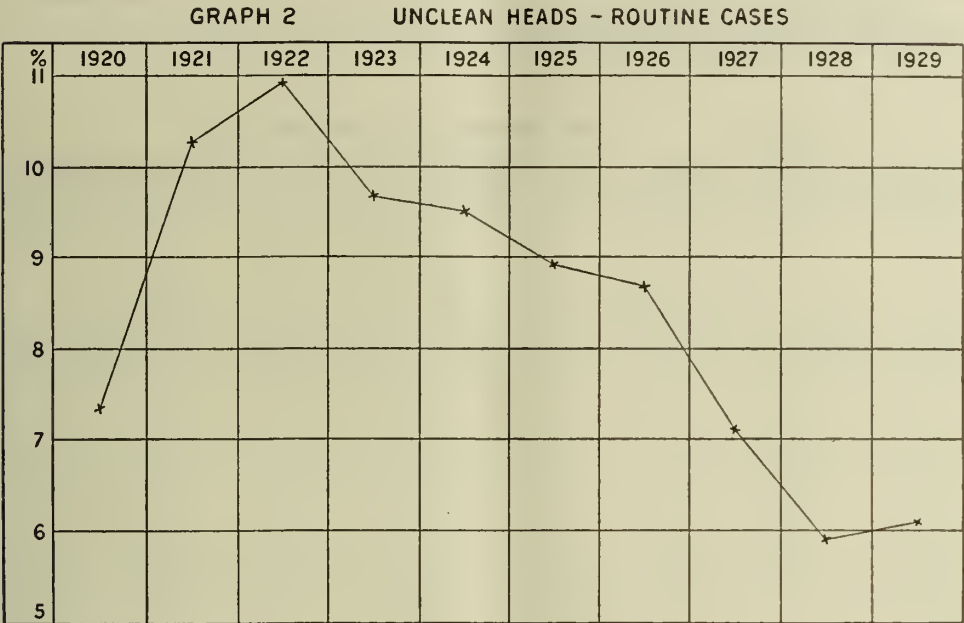
GRAPH I MALNUTRITION - ROUTINE CASES



During this year school feeding has been practised on an extensive scale, more especially in the colliery districts. The amount set aside for this purpose for the year is about £20,000. The selection of the cases for feeding is now practically on an economic basis, the primary object being to supply food to those who are unable to buy it. The food supply is bought from caterers and served, not in the schools, but in a building specially selected for the purpose. Feeding has taken place during school holidays in the exceptional districts. The average cost of each meal, including all the expenses attached to it, is about 5½d. In some areas milk is supplied in the school twice a day, and the cost is about the same, viz., 5½d—6d. per day. All the teachers have agreed that the feeding has resulted in a higher standard of mental effort.

UNCLEANLINESS.

During the year the percentage has risen slightly, from 5·85 to 6·09. It should be noted that the cases include those for observation as well as treatment.



Inspection of the graph shows cessation of the fall which has been taking place since 1922. Further effort is, therefore, needed to combat this unpleasant and unwholesome condition.

Unclean bodies show a percentage of 1·12, as against 0·87 last year, but both these increases are insignificant.

The percentages for Unclean Heads and Bodies are as follows:—

Year.				Heads.			Bodies.		
1920	...	...	...	7·32	...	...	...	1·75	
1921	...	...	...	10·29	...	...	...	1·55	
1922	...	...	...	10·95	...	...	...	0·86	
1923	...	...	...	9·7	...	...	...	0·84	
1924	...	...	...	9·52	...	...	...	0·98	
1925	...	...	...	8·93	...	...	...	1·15	
1926	...	...	...	8·68	...	...	...	1·15	
1927	...	...	...	7·06	...	...	...	1·15	
1928	...	...	...	5·85	...	...	...	0·87	
1929	...	...	...	6·09	...	...	...	1·12	

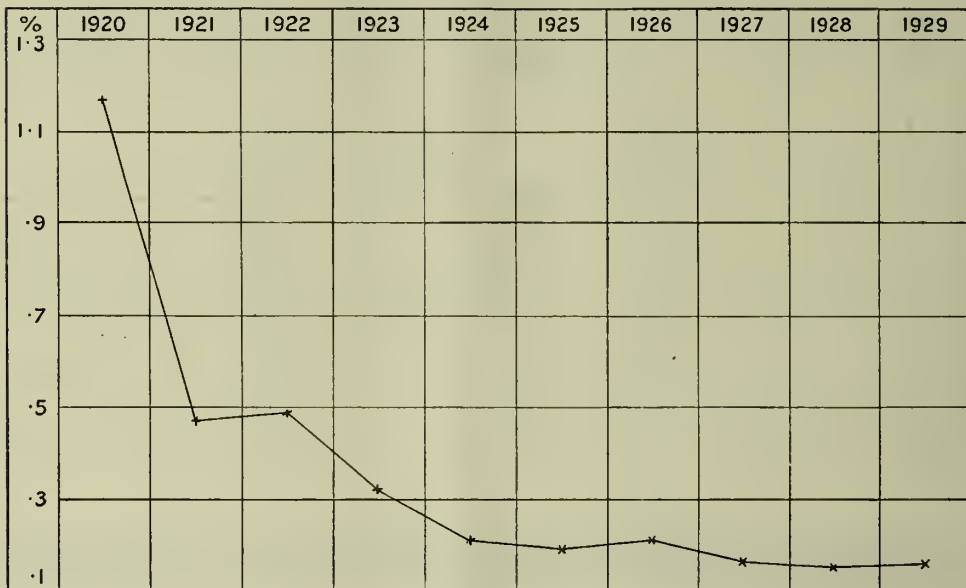


## RINGWORM OF THE HEAD.

This appears to have reached an almost stationary condition. The percentage for 1929 is .157, and an inspection of the graph shows that there has been little alteration since the year 1924.

Treatment by X-Rays is not so popular as it was a few years ago, and numerous cases are treated by the application of ointments, &c. Treatment by thallium acetate has not come into general use.

GRAPH 3 RINGWORM OF HEAD - ROUTINE CASES



Ringworm of the body also shows little alteration.

The figures for both defects are given below.

## RINGWORM.

Year.				Head.				Body.
1920	...	...	...	1.17	...	...	...	0.2
1921	...	...	...	0.47	...	...	...	0.097
1922	...	...	...	0.49	...	...	...	0.063
1923	...	...	...	0.32	...	...	...	0.121
1924	...	...	...	0.21	...	...	...	0.057
1925	...	...	...	0.19	...	...	...	0.102
1926	...	...	...	0.21	...	...	...	0.076
1927	...	...	...	0.16	...	...	...	0.079
1928	...	...	...	0.15	...	...	...	0.081
1929	...	...	...	0.157	...	...	...	0.071

Dr. R. J. Batty contributes a short article on the Treatment of Ringworm in School Children :—

## RINGWORM IN SCHOOL CHILDREN.

During the year, 1929-31, cases of ringworm of the head and body have been treated at the Fleetwood School Clinic.

Eighteen of these were treated with an ointment composed of Hydrar Ammon. and Tr. Iodi. Where the child attended regularly at the clinic the average period of treatment by this method was 21 days, including those who attended irregularly it was 38 days. Ten cases were treated with Mercussen's ointment, which consists of a solution of Sulphur in Caustic Potash with Zinc Hydrate, worked up into an ointment with Vaseline, Lanoline and Liquid Paraffin. This ointment was described in the "British Medical Journal" as a cure for Scabies, and is effective for that purpose. I have found it equally effective for Ringworm of the Scalp.

The method used was to shave the scalp, rub in the ointment thoroughly and then cover with lint and strapping. In a week's time the scalp is inspected and a second application applied if necessary. The ointment is not given to the child to take home. It has a very powerful action, makes the skin sore in some cases, and may even cause blisters. Its application should, therefore, be confined to the ring-worm area.

By this method of treatment the average period of treatment was reduced in these ten cases to 11·8 days.

#### SCABIES.

That this parasitic disease is not completely under control, is shown by a small rise to ·07 per cent. in 1929. Nearly all these cases originate in the big towns, and the movement of population is quite sufficient to keep this defect alive.

GRAPH 4

SCABIES - ROUTINE CASES



The percentages for Routine cases in the last 10 years are :—

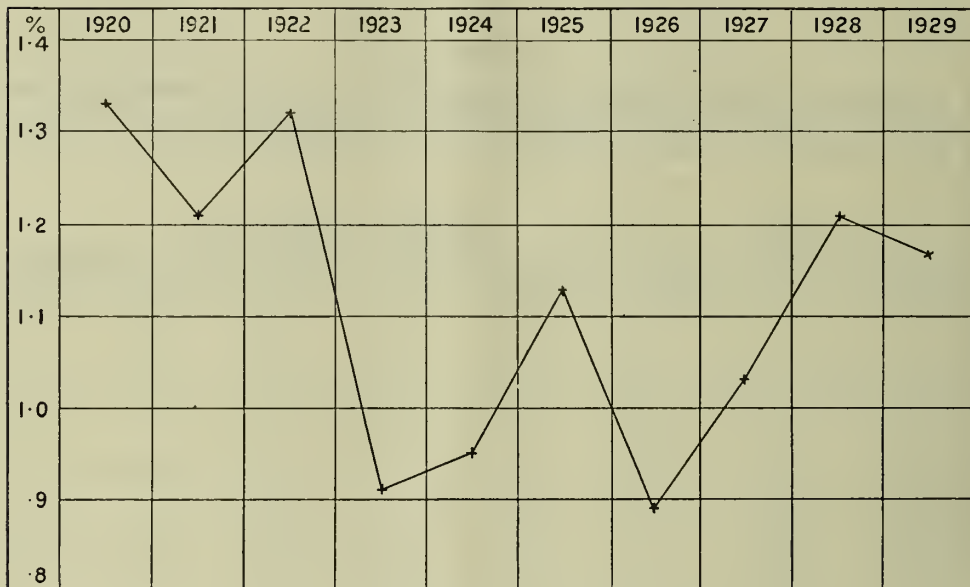
Year.					%
1920	...	...	...	...	0·46
1921	...	...	...	...	0·181
1922	...	...	...	...	0·11
1923	...	...	...	...	0·073
1924	...	...	...	...	0·057
1925	...	...	...	...	0·033
1926	...	...	...	...	0·073
1927	...	...	...	...	0·026
1928	...	...	...	...	0·057
1929	...	...	...	...	0·07

## IMPETIGO CONTAGIOSA.

The percentage for 1929 is only slightly less than that for 1928, namely, 1.17 against 1.21. It is undoubtedly the commonest skin disease at School Clinics, and frequently involves the whole family of children. There seems to be no easy way of stopping its spread in school except by exclusion.

GRAPH 5

IMPETIGO - ROUTINE CASES



The percentages amongst all Routine cases since 1920 are :—

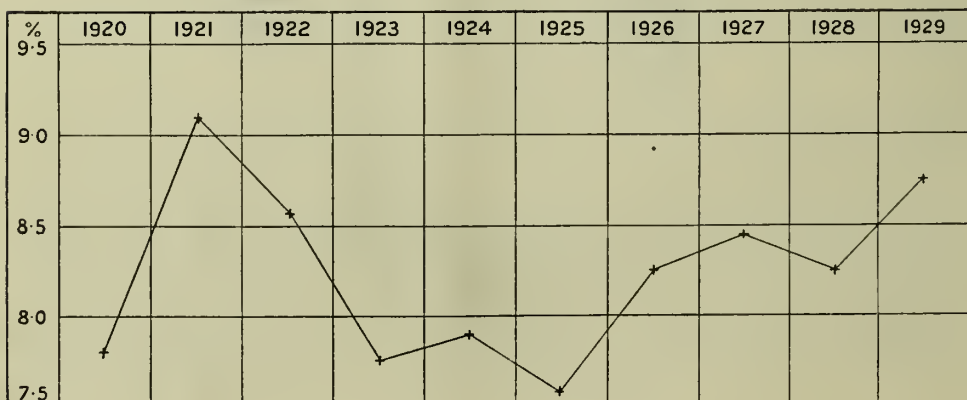
Year.						%
1920	...	...	...	...	...	1.33
1921	...	...	...	...	...	1.21
1922	...	...	...	...	...	1.32
1923	...	...	...	...	...	0.91
1924	...	...	...	...	...	0.94
1925	...	...	...	...	...	1.18
1926	...	...	...	...	...	0.89
1927	...	...	...	...	...	1.03
1928	...	...	...	...	...	1.21
1929	...	...	...	...	...	1.17

## DEFECTIVE VISION.

■ The percentage for 1929 shows amongst routine cases, including entrants, a percentage of 8.75. This is somewhat higher than the percentages found since the year 1923. Such variation as that which has occurred might easily be the result of chance.

GRAPH 6

DEFECTIVE VISION - ROUTINE CASES

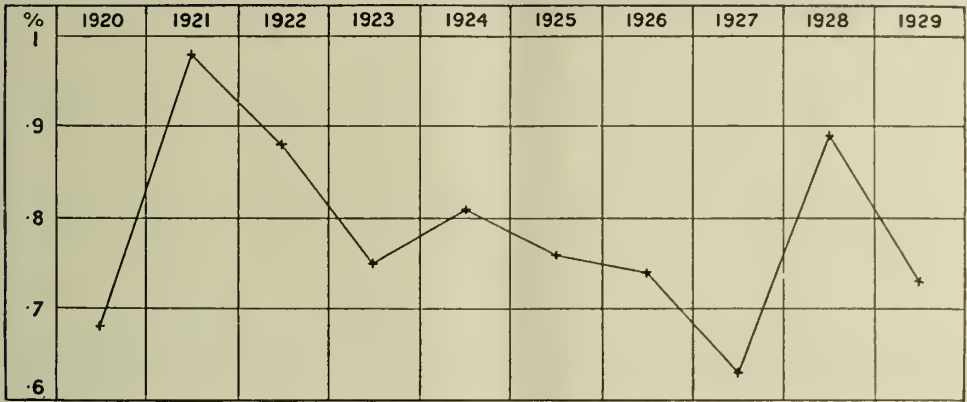




OTITIS MEDIA.

This shows a welcome drop from .89 per cent. in the previous year to .73 per cent. for 1929. This fall is all the more pleasing, in that owing to an epidemic of influenza in the early part of the year numerous cases of Otitis Media resulted. The effect of these, however, has only been temporary.

GRAPH 7 OTITIS MEDIA - ROUTINE CASES



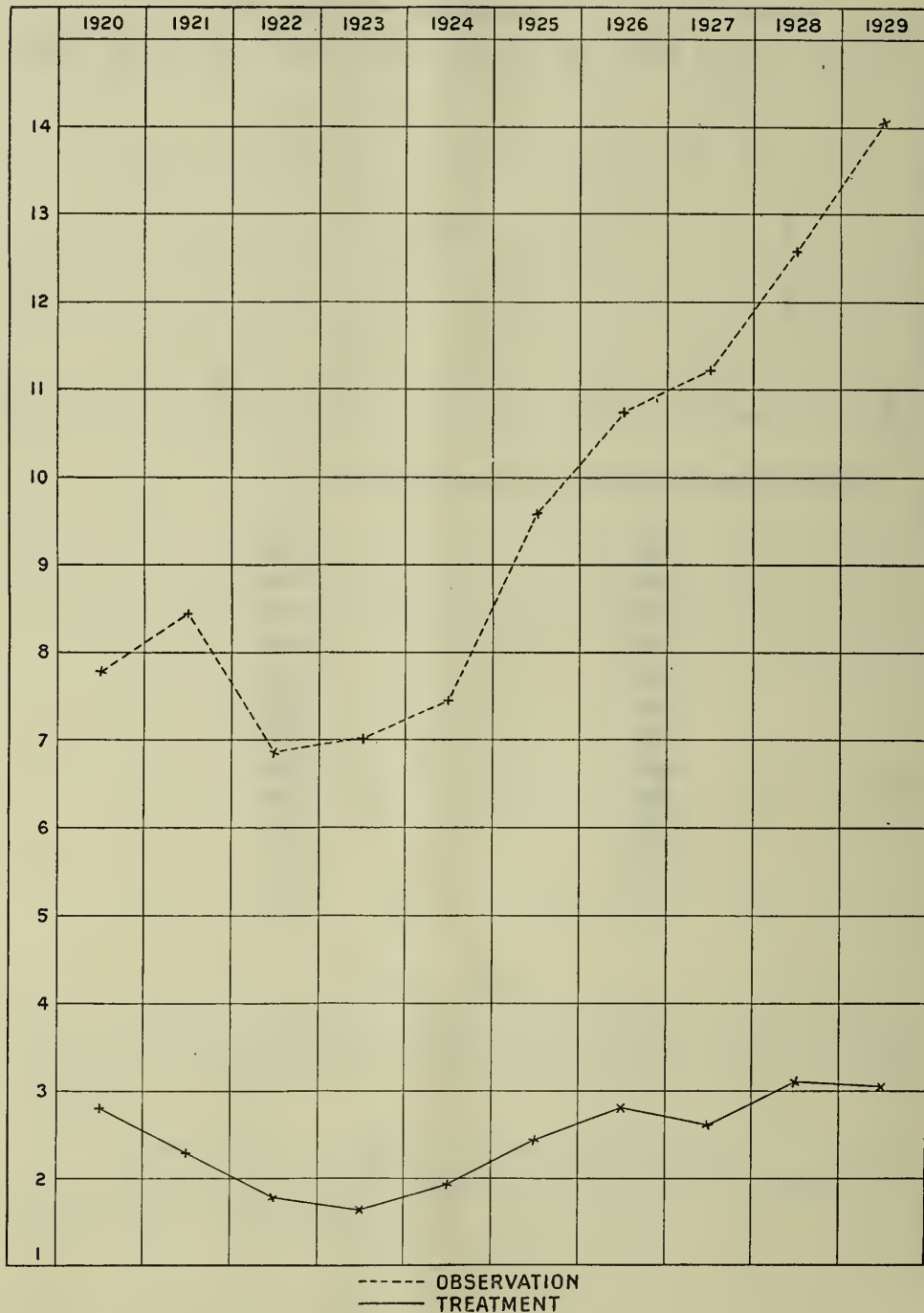
The percentages of Routine cases since 1920 are :—

Year.					%
1920	...	...	...	...	0.68
1921	...	...	...	...	0.98
1922	...	...	...	...	0.88
1923	...	...	...	...	0.75
1924	...	...	...	...	0.81
1925	...	...	...	...	0.76
1926	...	...	...	...	0.74
1927	...	...	...	...	0.63
1928	...	...	...	...	0.89
1929	...	...	...	...	0.73

## ENLARGED TONSILS AND ADENOIDS.

The graphs for treatment and observation respectively have been kept separate. For treatment the percentage for 1929 is only 3 per cent., but for observation the percentage is 14. An inspection of the graphs shows that the number for treatment remains fairly steady, whilst the number for observation has gone up very considerably since 1922. Both for operation and observation the percentage of cases has doubled since 1923.

GRAPH 8 ENLARGED TONSILS AND ADENOIDS - ROUTINE CASES



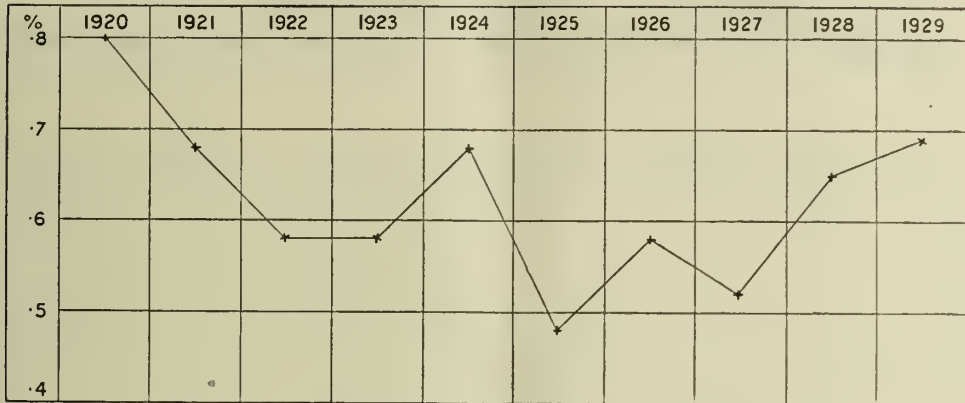
The percentages are as follows :—

Year.	Treatment.			Observations.		
1920	...	...	...	...	7.79	
1921	...	...	...	...	8.44	
1922	...	...	...	...	6.87	
1923	...	...	...	...	7.01	
1924	...	...	...	...	7.46	
1925	...	...	...	...	9.59	
1926	...	...	...	...	10.73	
1927	...	...	...	...	11.22	
1928	...	...	...	...	12.57	
1929	...	...	...	...	14.05	

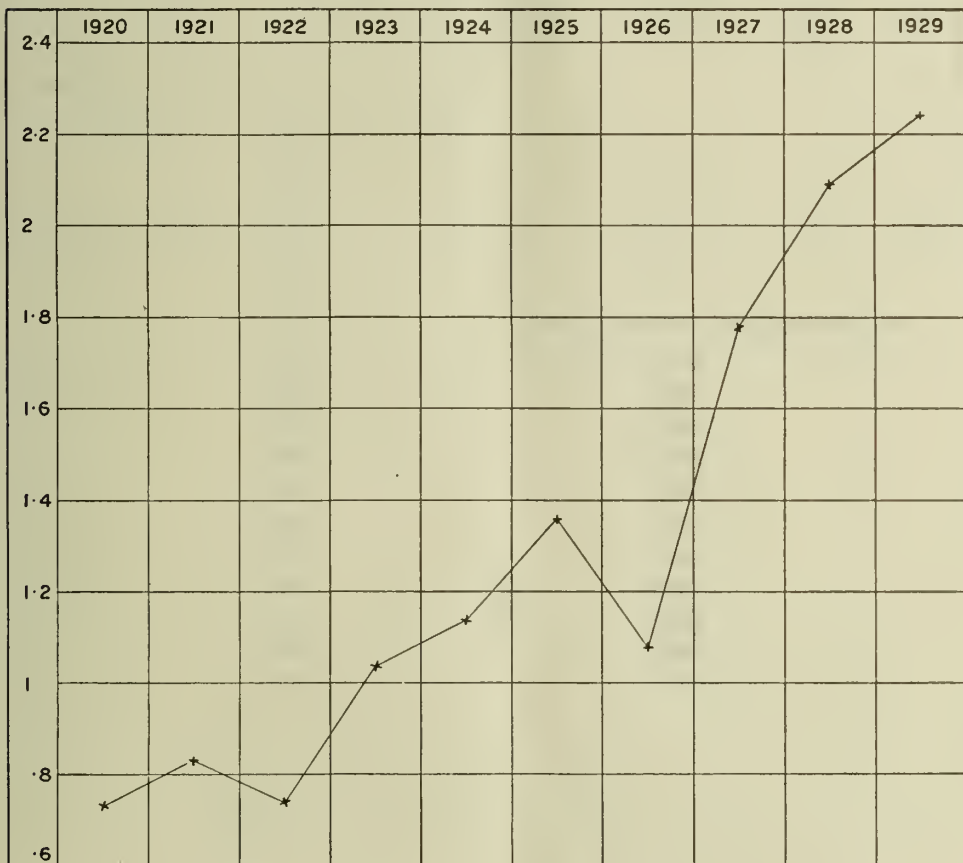
## ORGANIC HEART DISEASE.

Organic Heart Disease at .69 per cent. shows a very slight rise since 1928, but the amount of Functional Heart Disease, as shown by the graph, indicates a more or less gradual rise, with the exception of a dip in 1926, since the year 1922. It now appears to be about three times as common as it was seven years ago.

GRAPH 9 ORGANIC HEART DISEASE - ROUTINE CASES



GRAPH 10 FUNCTIONAL HEART DISEASE - ROUTINE CASES



The percentages for the 10 years are :—

Year.				Organic.			Functional.		
1920	...	...	...	0.8	...	...	...	0.73	
1921	...	...	...	0.68	...	...	...	0.83	
1922	...	...	...	0.58	...	...	...	0.74	
1923	...	...	...	0.58	...	...	...	1.04	
1924	...	...	...	0.68	...	...	...	1.14	
1925	...	...	...	0.48	...	...	...	1.36	
1926	...	...	...	0.58	...	...	...	1.08	
1927	...	...	...	0.52	...	...	...	1.78	
1928	...	...	...	0.65	...	...	...	2.09	
1929	...	...	...	0.69	...	...	...	2.24	



RICKETS.

The grosser forms of Rickets show a slight increase again from what was observed in 1928, the percentage being .85, as against .75.

GRAPH II RICKETS- ROUTINE CASES



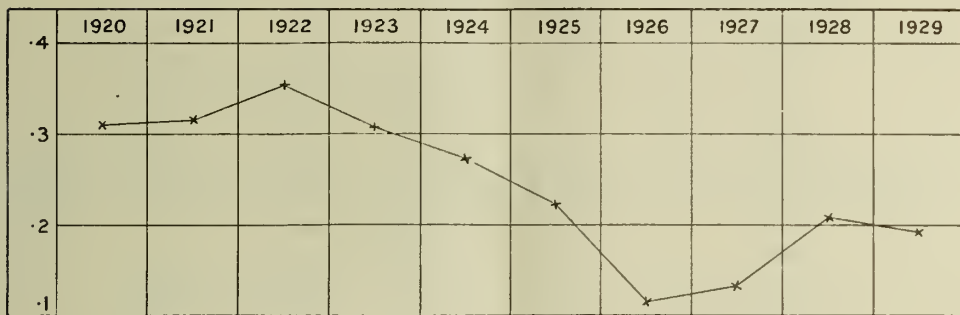
The percentages for 10 years are :—

Year.					%
1920	...	...	...	...	1.6
1921	...	...	...	...	1.51
1922	...	...	...	...	1.75
1923	...	...	...	...	1.29
1924	...	...	...	...	0.98
1925	...	...	...	...	0.71
1926	...	...	...	...	0.67
1927	...	...	...	...	0.58
1928	...	...	...	...	0.75
1929	...	...	...	...	0.85

## NON-PULMONARY TUBERCULOSIS.

The more active forms of this disease are not seen in school, but the graph shows a sensible reduction beginning about the year 1922, reaching a minimum in 1926 and 1927, but showing a slight rise since then. Although the percentages given are not a true measure of the incidence of Non-pulmonary Tuberculosis in school children, being only those found at routine inspections, they are, nevertheless, interesting as indicating, on the whole, an agreement with the fall in the incidence of Tuberculosis which is known from other sources.

GRAPH 12 NON-PULMONARY TUBERCULOSIS - ROUTINE CASES



The percentages for the past 10 years are :—

Year.					%
1920	...	...	...	...	0.31
1921	...	...	...	...	0.315
1922	...	...	...	...	0.355
1923	...	...	...	...	0.308
1924	...	...	...	...	0.272
1925	...	...	...	...	0.223
1926	...	...	...	...	0.115
1927	...	...	...	...	0.132
1928	...	...	...	...	0.209
1929	...	...	...	...	0.192

## VISUAL ACUITY.

The Visual Acuity of all "Intermediates" *i.e.*, children aged eight years, and all "Leavers" *i.e.*, children aged 12, 13 and 14 years, is tested by means of the Snellen test types and the following table summarises the results of these tests. :—

		BOYS.		GIRLS.	
		Inter- mediates.	Leavers.	Inter- mediates.	Leavers.
No. Examined		6,956	5,189	6,665	5,083
6	R.	84.2	84.4	80.9	81.5
	L.	82.8	83.3	80.1	79.5
9	R.	7.8	6.1	9.5	7.6
	L.	8.9	6.8	9.7	8.7
12	R.	3.2	3.4	3.4	3.6
	L.	3.1	2.9	3.7	3.7
18	R.	1.9	2.4	2.9	2.7
	L.	2.3	2.5	3.0	3.3
24	R.	1.2	1.7	1.6	2.0
	L.	1.2	1.8	1.6	2.2
36	R.	0.9	1.0	1.0	1.0
	L.	0.9	1.4	1.0	1.2
60	R.	0.5	0.6	0.5	1.0
	L.	0.4	0.9	0.6	0.7
0	R.	0.3	0.3	0.2	0.6
	L.	0.3	0.4	0.3	0.6

## DENTAL DEFECTS.

As dentists are now inspecting children at a higher age it is perhaps more important to review their figures than those of the Medical Officers.

Of the children inspected by the dentists 78.4 per cent. were found to require treatment.

## CRIPPLING DEFECTS.

The following table shows the incidence of the principal crippling diseases among the children who were examined in the routine age groups :—

	ENTRANTS.		INTERMEDIATES		LEAVERS.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Tuberculosis of Bones and Joints ...	0.01	...	...	0.01	0.03	...
Infantile Paralysis ... ..	0.1	0.1	0.2	0.08	0.05	...
Rickets ... ..	1.9	1.4	0.7	0.3	0.2	0.3
Spinal Curvature and other Deformities	2.6	2.0	2.6	2.0	3.6	3.0



The following table shows the position amongst the group of "Specials":—

	Boys.	Girls.
No. Examined ... ..	4,915	4,822
Tuberculosis of Bones and Joints ...	2	1
Infantile Paralysis ... ..	10	14
Rickets ... ..	88	39
Spinal Curvature and other Deformities	137	149

The total number of children belonging either to the routine age groups or to the class of "Specials" who were found to be suffering from one of the conditions which produce crippling, is shown below:—

Tuberculosis of Bones and Joints ... ..	7
Infantile Paralysis ... ..	59
Rickets ... ..	440
Spinal Curvature ... ..	130
Other Deformities ... ..	1246
	<u>1882</u>

It is to be noted that the above table refers to the conditions which produce crippling, and not necessarily to actual crippling; many of the conditions noted require observation only, and not active treatment.

The ascertainment of all the crippled children in the Administrative County is being actively pursued. At the end of 1929 the number of crippled children of Elementary School age who had been definitely entered on the new register of cripples was as follows:—

	Boys.	Girls.	Total.
Active non-pulmonary tuberculosis, chiefly of bones and joints ... ..	84	54	138
All other forms of crippling ... ..	948	850	1,798

These figures give a very imperfect idea of the amount of crippling conditions which have to be treated under the Authority's Cripple Scheme; they take no account of the cripples under school age, and yet the incidence of the principal causes of crippling—tuberculosis, rickets, and infantile paralysis—is largely prior to school age and occurs in the first five years of life.

### INFECTIOUS DISEASE.

Of administrative procedures for the prevention of infectious disease the most important are:—

- 1.—The exclusion of children suffering from, or showing symptoms suggestive of, infectious disease, or who may, it is feared, develop disease after exposure to infection;
- 2.—The closure of schools or of departments of schools.

During 1929 it was found necessary to close 79 schools on account of the prevalence of infectious disease. Every endeavour has again been made by the Assistant County Medical Officers to work in close co-operation with the local Medical Officers of Health whenever the closure of a school or department was in question.

The following tables show the number of schools which were closed during the year and the causes of closure :—

*No. of Schools Closed during 1929 by the Sanitary Authority  
(Article 22 of the Code).*

Measles	...	...	...	...	...	...	12
Scarlet Fever	...	...	...	...	...	...	6
Scarlet Fever and Diphtheria	...	...	...	...	...	...	1
Whooping Cough	...	...	...	...	...	...	2
Diphtheria	...	...	...	...	...	...	3
Chicken-pox	...	...	...	...	...	...	3
Influenza and Whooping Cough	...	...	...	...	...	...	2
Whooping Cough and Diphtheria	...	...	...	...	...	...	1
Influenza	...	...	...	...	...	...	32
Septic Throats	...	...	...	...	...	...	1
							<hr/>
							63
							<hr/>

*No. of Schools closed during 1929 by the School Medical Officer  
(Article 23 (b) of the Code).*

Measles	...	...	...	...	...	...	2
Scarlet Fever	...	...	...	...	...	...	8
Influenza	...	...	...	...	...	...	3
Whooping Cough	...	...	...	...	...	...	1
Mumps and Influenza	...	...	...	...	...	...	1
Chicken-pox	...	...	...	...	...	...	1
							<hr/>
							16
							<hr/>

There are two Authorities concerned in the closure of schools for Infectious Disease. The type of epidemic and the severity of the disease are known to the Local Medical Officer of Health, and this knowledge guides him very largely in determining whether a school shall be closed at the outset, or shortly afterwards. The Local Medical Officer of Health is concerned not with the average attendance at school, but solely with the control of the spread of Infectious Disease.

The School Medical Officer may close the school under Article 23 (b) of the Code for medical reasons only. Such medical reasons would include not only the control of Infectious Disease, but conditions affecting the health of the children in other ways, such as bad lighting, bad ventilation, or the occurrence of any defect in the heating apparatus, all of which might be prejudicial to the health of the children. In practice, the two officers are concerned with the same thing, *i.e.*, preventing the spread of Infectious Disease. The closure of schools for any other reason is seldom required.

Neither officer should take into account the closure of schools where the attendance has already fallen by a large amount through the occurrence of Infectious Disease, for the simple reason that the damage has already been done. In such cases, however, the School Medical Officer is empowered, under the Education Act, 1921 (Grant Regulations, No. 8 (Amendment, No. 2, 1924)), to give certificates to any school where the attendance, on account of the occurrence of Infectious Disease, has fallen below 60 per cent. of the number of children on the Register.

The number of such certificates given during 1929 was 618.

### EXCLUSIONS FROM SCHOOL.

Article 20 (b) of the Code provides for the exclusion of individual children from school on the ground that their exclusion is desirable, either in order to prevent the spread of disease, or on the ground that their uncleanly or verminous condition is detrimental to the other children.

The exclusion of individual children, as distinct from closure of the whole school, is made by the Committee's own staff.

The exclusion by the Assistant County Medical Officers and Nurses is made on a special form in triplicate. One copy is sent to the Central Office for the approval and counter-signature of the School Medical Officer; another is left in the school as authorisation for the Head Teacher and School Attendance Officer; and the third is retained by the Medical Officer or Nurse as a record. The exclusions are made for a specified period, and the children are re-examined at the end of the period, and either re-admitted as fit for school or excluded for such further period as may be necessary.

In the following table the number of children excluded under Article 20 (b) and the causes of exclusion are shown :—

Uncleanliness		Scabies.	Ring-worm.	Impetigo.	Scarlet Fever.	Measles	Mumps.	Diphtheria.	Chicken Pox.	Phthisis	Whooping Cough.	Other Diseases	Total.
Head.	Body.												
271	5	115	89	360	16	55	57	1	63	...	59	2013	3104

### FOLLOWING-UP.

This was fully described in the Annual Report for 1925.

During the year the Nurses as School Nurses visited 15,473 homes, and also made 186,653 examinations of school children in school, paying 4,282 visits to the schools, in addition to the visits paid to, and the work done in, the schools when they assisted the medical officers at routine inspections. As Health Visitors they paid 91,384 visits to homes, 4,985 visits to expectant mothers, 262 visits to cases of ophthalmia neonatorum, and 1,317 visits on miscellaneous matters; in the Child Welfare Centres they saw babies and young children 104,458 times, and expectant mothers 4,065 times.

### MEDICAL TREATMENT.

The policy of asking parents to contribute according to their means is still followed. Cases are first of all referred to their own doctor, who treats the case if satisfactory arrangements can be made. If no treatment has been obtained within a month, the case is then referred to the Clinic, when such is available, or to Hospital, as the case may be. A nominal sum is asked for each attendance at the Clinic, but in necessitous cases no charge is made. The consent, in writing, of a parent or guardian is obtained before treatment of any kind is given.

Treatment continues to expand. The development of Medical Treatment has progressed still further, and during the year additional Clinics have been opened at Crompton, Milnrow, Walkden, and Whitworth for the treatment of minor ailments defective eyesight, and teeth defects. Arrangements have also been made during the year with the Lancaster Infirmary for the operative treatment of tonsils and adenoids, and with the Ashton-under-Lyne Infirmary for artificial light treatment.

The following is a list of the School Clinics open for treatment at the time of going to press, the kind of work which is undertaken in each being shown :—

Township.		Days and Times of Opening.	Nature of work undertaken.	Remarks.
Ashton-in-Makerfield	... Mon.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Tues.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Orthopædic	... Surgeon attends second Tuesday in each month only.
	Wed.	... 10 a.m. to 12 noon 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmic ... Dental	
	Thurs.	... 2 p.m. to 4 p.m. 10 a.m. to 12 noon. 2 p.m. to 4 p.m.	... Minor Ailments... ... Dental	Nurse only. Re-dressings.
	Fri.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
Ashton-under-Lyne (A)	Wed.	... 10 a.m. to 12 noon	... Orthopædic	... Surgeon attends third Wednesday in each month only.
	Fri.	... 10 a.m. to 12 noon	... Orthopædic	... Nurse only.
Ashton-under-Lyne (B)	Mon.	} 2 p.m. to 4 p.m.	... Artificial light	... Doctor attends Tuesday and Friday only.
	Tues.			
	Wed.			
	Thurs.			
	Fri.			
Atherton	... Mon.	... 2 p.m. to 4 p.m.	... Artificial light	
	Thurs.	... 9-45 a.m. to 12 noon	... Artificial light	



Township.	Days and Times of Opening.		Nature of work undertaken.		Remarks.
Audenshaw	... Mon.	... 9-30 a.m. to 12 noon	... Minor ailments		
	Tues.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental		
	Wed.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental		
	Thurs.	... 9-30 a.m. to 12 noon	... Ophthalmic	... Open alternate weeks only	
	Fri.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments	... Nurse only. Re-dressings.	
Burnley	... Thurs.	... 2 p.m. to 4 p.m.	... Orthopædic	... Surgeon attends second Thursday in each month only.	
Chadderton	... Wed.	... 2 p.m. to 4 p.m.	... Orthopædic	... Surgeon attends third Wednesday in each month only.	
	Fri.	... 2 p.m. to 4 p.m.	... Orthopædic	... Nurse only.	
Chorley	... Mon.	} 2 p.m. to 3 p.m. Boys 3 p.m. to 4 p.m. Girls	... Artificial light		
	Wed.				
	Fri.				
Crompton	... Mon.	... 9-30 a.m. to 12 noon 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmic ... Dental		
	Tues.	... 9-30 a.m. to 12 noon	... Minor ailments...	... Nurse only. Re-dressings.	
	Thurs.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental		
	Fri.	... 9-30 a.m. to 12 noon	... Minor ailments		
Dalton-in-Furness	... Mon.	... 9-30 a.m. to 12 noon	... Minor ailments...	... Nurse only. Re-dressings.	
		9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental		
	Tues.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental		
	Thurs.	... 9-30 a.m. to 12 noon 9-30 a.m. to 12 noon	... Dental ... Minor ailments		
	Fri.	... 10 a.m. to 12 noon	... Ophthalmic		
Flectwood	... Mon.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m. 10-30 a.m. to 12-30 p.m. 2 p.m. to 4 p.m.	... Dental Orthopædic	... Nurse only.	
	Tues.	... 9-30 a.m. to 12 noon	... Minor ailments		
	Wed.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental		
	Thurs.	... 9-30 a.m. to 12 noon 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments... ... Dental	... Nurse only. Re-dressings.	
	Fri.	... 10-30 a.m. to 12-30 p.m. 2 p.m. to 4 p.m. 10 a.m. to 12 noon	Orthopædic ... Ophthalmic	... Surgeon attends third Friday in each month only. ... Open alternate weeks only.	
Great Crosby	... Tues.	... 10 a.m. to 12 noon	... Dental		
	Thurs.	... 10 a.m. to 12 noon	... Dental		
	Fri.	... 10 a.m. to 12 noon	... Dental		
Haydock	... Mon.	... 9-30 a.m. to 12 noon	... Minor ailments...	... Nurse only. Re-dressings.	
	Tues.	... 10 a.m. to 12 noon	... Orthopædic	... Surgeon attends second Tuesday in each month only.	
	Wed.	... 10 a.m. to 12 noon	... Minor ailments		
	Thurs.	... 10-30 a.m. to 12-30 p.m.... 10-30 a.m. to 12-30 p.m....	... Ophthalmic ... Dental	... Open alternate weeks only. ... Open alternate weeks only.	
	Fri.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental		

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Horwich	... Mon.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments... ... Dental	Nurse only. Re-dressings.  ... Surgeon attends first Wednesday in each month only. Nurse attends first and fourth Wednesday.
	Tues.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m. 10 a.m. to 12 noon	... Dental  ... Artificial light	
	Wed.	... 10 a.m. to 12 noon 10 a.m. to 12 noon	... Ophthalmic ... Orthopædic	
	Fri.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	
	Sat.	... 10 a.m. to 12 noon	... Artificial light	
Irlam	... Mon.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Tues.	... 9-30 a.m. to 12 noon	... Minor ailments	
	Wed.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Thurs.	... 9-30 a.m. to 12 noon 9-30 a.m. to 12 noon 2 p.m. to 4 p.m. 2 p.m. to 4 p.m.	... Ophthalmic ... Dental ... Orthopædic	
	Fri.	... 9-30 a.m. to 12 noon	... Minor ailments	
Kearsley	... Mon.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmic ... Minor ailments	Nurse only. Re-dressings.  ... Nurse only. ... Surgeon attends first Wednesday in each month only.
	Tues.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m. ... 10 a.m. to 12 noon	... Dental  ... Orthopædic	
	Wed.	... 2 p.m. to 4 p.m.	... Orthopædic	
	Thurs.	... 9 a.m. to 12 noon	... Minor ailments	
	Fri.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
Lancaster	... Mon. or Thurs.	... 10 a.m. to 12 noon	... Ophthalmic	... Open by arrangement when sufficient number of cases for treatment, usually monthly. Day changed to Monday during summer months. ... Third Tuesday, alternate months.
	Tues.	... 10-30 a.m. to 12-30 p.m.	... Orthopædic	
Leyland	... Mon.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Orthopædic	Nurse only. Re-dressings. ... Surgeon attends first Monday in each month only.  ... Open alternate weeks only
	Tues.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Wed.	... 9-30 a.m. to 12 noon	... Ophthalmic	
	Thurs.	... 9-30 a.m. to 12 noon	... Minor ailments	
	Fri.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Litherland	... Mon.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Tues.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	
	Wed.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m. 10 a.m. to 12 noon	... Dental ... Orthopædie	... Surgeon attends second Wednesday in each month. Nurse attends each Wednesday, except second Wednesday.
	Thurs.	... 9-15 a.m. to 12-15 p.m. 2 p.m. to 4 p.m.	... Ophthalmie ... Dental	
	Fri.	... 9 a.m. to 10 a.m. 10 a.m. to 12 noon	... Inspection ... Minor ailments	
Littleborough	... Mon.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Tues.	... 9 a.m. to 12 noon	... Minor ailments...	Nurse only. Re-dressings
	Wed.	... 10 a.m. to 12 noon	... Ophthalmie	... Open alternate weeks only.
	Thurs.	... 9 a.m. to 12 noon	... Minor ailments	
Milnrow	... Tues.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m. 9-30 a.m. to 12 noon	... Dental ... Minor ailments...	Nurse only. Re-dressings.
	Fri.	... 9-30 a.m. to 12 noon	... Minor ailments	
Nelson	... Fri.	... 2 p.m. to 4 p.m.	... Orthopædie	... Surgeon attends third Friday in each month only.
Ormskirk (A)	... Mon.	... 10 a.m. to 12 noon	... Minor ailments...	Open alternate weeks only. (Re-dressings by Hospital Staff each day).
	Fri.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
Ormskirk (B)	... Fri.	... 10 a.m. to 12 noon	... Orthopædie	... Surgeon attends first Friday in each month only. Nurse attends each Friday, except third Friday.
Orrell	... Tues.	... 9-30 a.m. to 12 noon 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments... ... Dental	Nurse only. Re-dressings.
	Wed.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Thurs.	... 9-30 a.m. to 12 noon	... Minor ailments.	
	Fri.	... 2 p.m. to 4 p.m.	... Ophthalmic	... Open alternate weeks only.
Oswaldtwistle	... Mon.	... 9 a.m. to 12 noon 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	... Nurse only. Re-dressings.
	Wed.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Thurs.	... 9 a.m. to 12 noon	... Minor ailments	
	Fri.	... 10 a.m. to 12 noon 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmie ... Dental	... Open alternate weeks only.



Township	Days and Times of Opening.		Nature of work. undertaken.	Remarks.
Padiham	... Mon.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Tues.	... 9-30 a.m. to 12 noon 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	
	Wed.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m. 2 p.m. to 4 p.m.	... Dental ... Ophthalmic	... Open alternate weeks only.
	Thurs.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Fri.	... 9-30 a.m. to 12 noon 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	... Nurse only. Re-dressings.
Prescot	... Mon.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m. 9 a.m. to 12 noon	... Dental ... Minor ailments...	... Nurse only. Re-dressings.
	Tues.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Wed.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m. 2 p.m. to 4 p.m.	... Dental ... Ophthalmic	... Open alternate weeks only.
	Thurs.	... 9 a.m. to 12 noon	... Minor ailments	
	Fri.	... 2 p.m. to 4 p.m.	... Orthopædic	... Surgeon attends first Friday in each month only. Nurse attends each Friday, except third Friday.
Preston	... Wed.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Orthopædic	... Surgeon attends fourth Wednesday in each month.
Ramsbottom	... Mon.	... 9 a.m. to 12 noon	... Minor ailments...	... Nurse only. Re-dressings.
	Tues.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Wed.	... 9 a.m. to 12 noon	... Minor ailments	
	Fri.	... 10 a.m. to 12 noon 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmic ... Dental	... Open alternate weeks only.
Rawtenstall	... Wed.	... 10 a.m. to 12 noon	... Orthopædic	... Surgeon attends fourth Wednesday in each month.
Rishton	... Mon.	... 9-30 a.m. to 12 noon	... Minor ailments	... Nurse only. Re-dressings.
	Tues.	... 10 a.m. to 12 noon 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmic ... Dental	... Open alternate weeks only.
	Wed.	... 2 p.m. to 4 p.m.	... Orthopædic	... Surgeon attends fourth Wednesday in each month only.
	Thurs.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Fri.	... 9-30 a.m. to 12 noon	... Minor ailments.	
Rochdale	... Mon.	... 9-30 a.m. to 12 noon	... Orthopædic	... Surgeon attends each week.
	Tues.	... 9-30 to 12 noon	... Ophthalmic	... Open alternate weeks only.
Royton	... Tues.	... 9 a.m. to 12 noon 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	
	Wed.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m. 10 a.m. to 12 noon	... Dental ... Ophthalmic	... Open alternate weeks only.
	Thurs.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Fri.	... 9 a.m. to 12 noon	... Minor ailments—	... Nurse only. Re-dressings.

Township.		Days and Times of Opening.	Nature of work undertaken.	Remarks.
Skelmersdale	... Wed.	... 1.45 p.m. to 4 p.m.	... Inspection	
Tyldesley	... Mon.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmic ... Orthopædic	... Open alternate weeks only. ... Nurse only.
	Tues.	... 9 a.m. to 12 noon 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	
	Wed.	... 10 a.m. to 12 noon	... Orthopædic	... Surgeon attends second Wednesday in each month only.
	Thurs.	... 2 p.m. to 4 p.m.	... Minor ailments	... Nurse only. Re-dressings.
	Fri.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
Ulverston	... Mon.	... 9 a.m. to 12 noon 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	... Nurse only. Re-dressings.
	Tues.	... 2 p.m. to 4 p.m.	... Orthopædic	... Third Tuesday alternate months.
	Wed.	... 9 a.m. to 12 noon 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Minor ailments ... Dental	
	Thurs.	... 9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmic ... Dental	... Open alternate weeks only.
	Fri.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
Walkden	... Mon.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m. 2 p.m. to 4 p.m.	... Dental ... Ophthalmic	... Open alternate weeks only.
	Tues.	... 10 a.m. to 12 noon	... Minor ailments	... Nurse only. Re-dressings.
	Wed.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Fri.	... 10 a.m. to 12 noon	... Minor ailments	
Westhoughton	... Mon.	... 9 a.m. to 12 noon 9 a.m. to 12 noon	... Dental ... Minor ailments	
	Tues.	... 2 p.m. to 4 p.m.	... Artificial light.	
	Wed.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m. 10 a.m. to 12 noon	... Dental ... Ophthalmic	... Open every fourth Wednesday only.
		2 p.m. to 4 p.m.	... Minor ailments	... Nurse only. Re-dressings.
	Thurs.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Fri.	... 9 a.m. to 12 noon 11 a.m. to 12 noon	... Dental ... Artificial light	
Whitefield	... Mon.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Tues.	... 9 a.m. to 12 noon	... Minor ailments	
	Wed.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
	Thurs.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m. 10 a.m. to 12 noon	... Dental ... Orthopædic	... Surgeon attends third Thursday in each month only.
	Fri.	... 9 a.m. to 12 noon 2 p.m. to 4 p.m.	... Ophthalmic ... Minor ailments.	... Open alternate weeks only. ... Nurse only. Re-dressings.
Whitworth	... Mon.	... 10 a.m. to 12 noon	... Minor ailments	
	Thurs.	... 10 a.m. to 12 noon	... Minor ailments	... Nurse only. Re-dressings.
	Fri.	... 10 a.m. to 12 noon 2 p.m. to 4 p.m.	... Dental	
Wigan	... Mon.	... 10 a.m. to 12 noon	... Orthopædic	... Surgeon attends first Monday in each month only.

Arrangements have been made with the following Hospitals for the treatment of specified classes of defect, those marked with an asterisk being new arrangements made during the year :—

Ancoats Hospital, Manchester ...	Tonsils and adenoids.
Ashton-under-Lyne Infirmary ...	Tonsils and adenoids, eye defects, X-ray treatment of ringworm.
Barton-upon-Irwell Park Hospital ...	Tonsils and adenoids.
Blackburn Infirmary ...	Tonsils and adenoids, eye defects, X-ray treatment of ringworm.
Bolton Infirmary ...	Do.
Bury Infirmary ...	Do.
Burnley Victoria Hospital ...	Tonsils and adenoids ; eye defects.
Fleetwood Hospital ...	Tonsils and adenoids.
Hartley Hospital, Colne ...	Tonsils and adenoids ; eye defects.
*Lancaster Infirmary ...	Tonsils and adenoids.
Leigh Borough Clinic ...	Tonsils and adenoids.
Myrtle Street Hospital, Liverpool ...	Tonsils and adenoids ; eye defects.
Oldham Infirmary ...	Tonsils and adenoids ; eye defects ; X-ray treatment of ringworm.
Ormskirk Cottage Hospital ...	Tonsils and adenoids ; eye defects.
Peasley Cross Hospital, St. Helens ...	Do.
Preston Infirmary ...	Tonsils and adenoids, eye defects, X-ray treatment of ringworm.
Ramsbottom Cottage Hospital	Tonsils and adenoids.
St. Paul's Hospital, Liverpool ...	Eye defects.
Ulverston Cottage Hospital ...	Tonsils and adenoids.
Warrington Infirmary ...	Tonsils and adenoids ; eye defects.
Widnes Accident Hospital ...	Tonsils and adenoids.
Wigan Infirmary ...	Tonsils and adenoids.
Ethel Hedley Orthopædic Hospital, Windermere ...	Crippling defects.
Home for Crippled Children, Bamford, near Rochdale ...	Do.
Ancoats Hospital, Manchester ...	Do.
Myrtle Street Children's Hospital, Liverpool ...	Do.
Liverpool Children's Hospital, Heswall ...	Do.

#### MINOR AILMENTS.

These include such defects as running ears, external eye disease, skin diseases, &c., and treatment for them is available for approximately 55,000 children, additional provision having been made in Crompton, Milnrow, Walkden and Whitworth.

#### TONSILS AND ADENOIDS.

Arrangements are now in force with the following Hospitals and Clinics for the operative treatment of Tonsils and Adenoids :—Ancoats Hospital, Manchester ; Ashton-under-Lyne Infirmary, Barton-upon-Irwell Union Hospital, Blackburn Infirmary, Bolton Infirmary, Bury Infirmary, Burnley Victoria Hospital, Fleetwood Hospital, Hartley Hospital, Colne ; Lancaster Infirmary, Leigh Borough Clinic, Myrtle Street Hospital, Liverpool ; Oldham Infirmary, Ormskirk Cottage Hospital, Peasley Cross Hospital, St. Helens ; Preston Infirmary, Ramsbottom Cottage Hospital, Ulverston Cottage Hospital, Warrington Infirmary, Widnes Accident Hospital, Wigan Infirmary.

During the year the number of children who received operative treatment for this condition was 1,633, of whom 1,489 were treated under the Committee's scheme.



## TUBERCULOSIS.

The treatment of tuberculous school children is in the hands of the Tuberculosis Committee of the Lancashire County Council, and all cases for treatment are referred to the Tuberculosis Officer for the area concerned.

## VISION.

The treatment of defects of vision is undertaken either in the Eye Departments of General Hospitals or in the Eye Departments of the Committee's own Clinics. In the former case it is undertaken by the Specialist Staff of the Hospital; in the latter case by part-time Visiting Specialists. Arrangements have been made with the following Hospitals :—Ashton-under-Lyne, Blackburn, Bolton, Burnley, Bury, Colne, Oldham, Ormskirk, Preston, St. Helens, Warrington, Liverpool, Myrtle Street Eye and Ear Hospital, and St. Paul's Eye Hospital.

Visiting Specialists attend at the School Clinics in Ashton-in-Makerfield, Audenshaw, Crompton, Dalton-in-Furness, Fleetwood, Haydock, Horwich, Irlam, Kearsley, Lancaster, Litherland, Leyland, Littleborough, Oswaldtwistle, Padiham, Prescott, Rishton, Rochdale, Royton, Ramsbottom, Tyldesley, Ulverston, Walkden, Whitefield, and Westhoughton.

The number of children for whom Specialist eye treatment is available is approximately 120,000. The number of children who received treatment for defective vision or squint was 5,208, of whom 4,834 were dealt with under the Committee's scheme.

Arrangements have also been made with certain firms of opticians, in connection with each Ophthalmic Clinic or Hospital, to supply spectacles at a low fixed charge. In necessitous cases the charge is reduced or remitted altogether. The number of children who either purchased or received free spectacles under this scheme was 2,936.

In one area a local charity has arranged for the treatment of visual defect in Elementary School children, and provides spectacles free of charge to every child requiring them.

## DENTAL DEFECTS.

The dental staff now consists of fourteen full-time and one part-time dental surgeons; each assisted by a nurse or dental attendant. Dental Clinics have been established in Ashton-in-Makerfield, Audenshaw, Crompton, Dalton-in-Furness, Fleetwood, Great Crosby, Haydock, Horwich, Irlam, Kearsley, Leyland, Litherland, Littleborough, Milnrow, Ormskirk, Oswaldtwistle, Padiham, Prescott, Ramsbottom, Rishton, Royton, Tyldesley, Ulverston, Walkden, Westhoughton, Whitefield, and Whitworth.

These Clinics serve schools with an average attendance of 50,000 children. The number of children who received treatment during the year was 20,142.

As it is impossible, owing to the large number requiring treatment, to attend to all children, the energies of the dentists are concentrated on the younger groups of children during the eruption of the first permanent teeth.

Apart from this routine work, the dentists treat the following classes :—

- (a) Expectant and Nursing Mothers, on the recommendation of the Medical Officers;
- (b) Children under school age, similarly;
- (c) Casuals.

Casuals are of three classes :—

- (a) Urgent cases, *e.g.*, toothache, dental abscess;
- (b) Cases where the mouth has to be put into a clean condition previous to operation for tonsils and adenoids;
- (c) Cases in which the Medical Officer requests that dental treatment should be given for some other medical reason, *e.g.*, anæmia.

## ARTIFICIAL LIGHT TREATMENT.

Clinics have been established at Ashton-under-Lyne, Atherton, Chorley, Horwich and Westhoughton for the treatment by artificial light of certain children in sub-normal health, and during the year 102 children received this form of treatment, making 1,825 attendances.

DR. LEIGH reports as follows :—

*Westhoughton and Atherton Artificial Light Clinics.*

- (1) Number of cases treated ... 50
- (2) Quartz Mercury Vapour—
  - (a) 18 weeks, Max. .... 40 weeks.  
Min. .... 7 „
  - (b) 40 Max. .... 80  
Min. .... 14
  - (c) Sub-erythema Max. .... 15 minutes, at 3 feet.  
Min. .... 2 „
- (3) Three catarrhal cases received cod liver oil during the treatment by U.V.R.  
Two cases had enlarged tonsils and adenoids removed.  
One case was taken to the seaside for one month.
- (4) Improvement in all cases except two as follows :—  
J.T. suffering from ichthyosis of several years' duration. For some time there was marked improvement, but the case afterwards relapsed.  
C.C.—A catarrhal child suffering from asthma. Enlarged tonsils and adenoid growths were removed, but the child made very slight progress.
- (5) M.L.—Large indurated scar following removal of submental glands. Marked progressive improvement to complete cure  
J.C.—Severe furunculosis. Recovery in one month, followed by fresh outbreak, which in turn was cured in three weeks.  
Eight other cases of impetigo. Response much quicker than is usual with mercurial treatment.
- (6) In none of the cases were unfavourable symptoms noted.
- (7) There would appear to be little doubt that the administration of ultra violet rays can advantageously assist in the treatment of school children.

In cases of malnutrition, as in catarrhal cases, the condition is probably a legacy of earlier rickets. These children did well. A striking fact is that with few exceptions the children show little gain in weight. There were three such exceptions where the gain was marked. These were children who had suffered in previous years from surgical tuberculosis.

Septic skin conditions would appear to be very favourably affected by the rays, impetigo quickly yielding to the treatment.

The effect of the rays on the general health is noticeable, if not striking. The children improve in health, becoming brighter, happier and suggesting a sense of well-being.

*Summary of Cases.*

Malnutrition (with evidence of previous rickets)	...	...	...	16
Catarrhal conditions (including several cases with evidence of previous rickets)	...	...	...	18
Impetigo Contagiosa	...	...	...	10
Ichthyosis	...	...	...	1
Indurated Ulcers, leg	...	...	...	2
General Scrofulous Conditions	...	...	...	3

DR. WRAY reports :—

Six cases from my area attended at Chorley. I have classified these below, with results :—

- 1.—Gland Neck ... No benefit derived ; gland disappeared with iodine.
- 2.—Gland Neck ... Improved greatly, disappeared entirely after removal  
(due to T. & A.) of T. & A.
- 3.—Gland Neck ... Derived no benefit ; formed abscess—operation.
- 4.—Gland Neck ... Derived no benefit ; formed abscess—operation.
- 5.—Sub-acute Bronchitis... Derived great benefit, put on weight, improved tone,  
and chest clearer.
- 6.—Psoriasis' ... Still under treatment ; very much improved.

Report by DR. MIDDLEBROOKE on two cases treated at Chorley Centre :—

Case 1 (born 12/7/17).—This child has complained of bronchitis all her life. Sputum and cough. No evidence of tuberculosis. Sputum negative. Nervous disposition.

Treatment was continued for nearly one year, during which time she paid 82 visits, at the rate of three visits per week. At the beginning she had an exposure of four minutes, back and front, to a carbon arc lamp. This was gradually increased until at the end of a month she was having about 25 minutes back and front. Her weight at the beginning of the treatment was 3 st. 9½ lbs., and has gradually increased until at the end of treatment she was 4 st. ½-lb. During the same time the child was having Cod Liver Oil and Malt or Vitamalt. She was attending school during the course of treatment. During the first three months the cough improved, the sputum diminished in quantity, and she both slept and ate better. After six months there was a slight relapse, with more cough and sputum. After the year there was some general improvement, but the child remained very thin, and there were still signs of chronic bronchitis in the chest. Two months after the beginning of treatment she was said to be pigmenting nicely. There were no other remarks about pigmentation.

Case 2 (born 1/10/27).—This child had never been strong and was troubled with chest and night cough. Poor appetite. Some dyspnoea. This child had four months treatment. At the beginning she weighed 3 st. 3 lbs. 14 ozs., and at the end of treatment she weighed 3 st. 2 lbs. 12 ozs. Treatment was commenced with four minutes' exposure to a carbon arc lamp, and this dose was increased to about 15–20 minutes by the end of the month. In three months' time her appetite was said to be better, and she was able to play with other children more normally. She discontinued treatment on her own account at the end of four months. Her breath sounds were still not clear. The doses were given three times a week, and after three months the back became sore, after an 18 minute exposure. She attended the Clinic on 30 occasions, at the rate of three times a week. The parent seemed to think that the child received benefit from the treatment, but the results of both this and the previous case have been to me disappointing.

DR. JAGGER states :—

The treatment of school children by Ultra Violet Ray Medication is undertaken by Dr. Sewell at the Horwich Clinic bi-weekly, and the apparatus used consists of three mercury vapour lamps, of the atmospheric type (Kelvin, Bottomley), and one carbon arc lamp. The working arrangements are such that selected cases from the schools and school clinic are referred to Dr. Sewell's clinic for treatment. Records have been kept according to the sample chart which is attached ; temperature and weight records have been kept, but the taking of blood pressures has been discarded.

During the last year 20 school cases have been treated. They are as follows :—

					Complexion.
Lupus ...	...	...	2	2 fair.	
Whooping Cough	...	...	2	1 fair ; 1 dark.	
Abdominal Tb.	...	...	3	3 fair.	
Endocarditis	...	...	1	1 dark.	
Malnutrition	...	...	2	2 fair.	
Anæmia	...	...	6	3 dark ; 3 fair.	
Bronchitis	...	...	2	1 fair ; 1 medium.	
Eczema	...	...	2	2 fair.	



Of these cases excellent results have occurred with the cases of lupus. Improvement (which has been marked) has resulted in the cases of whooping cough and anæmia, and also in one case of eczema. In the cases of abdominal tuberculosis, malnutrition, bronchitis, and in one case of eczema, little or no beneficial reaction to the treatment has resulted. The other case of eczema was aggravated. It is true that in these last mentioned cases (except the eczema) the patients were stimulated and appetite improved, but weight showed a swinging tendency. On the discontinuation of treatment, or rather I should say, a month or more after discontinuation of treatment, a reaction set in, and the final condition was no better than that before treatment ; in fact, a negative phase often sets in and the final condition is below the initial zero.

For the last 5 or 6 years I have had under observation the effects of treatment by Ultra Violet Rays both in Hospital and at Clinics, and I am convinced, as the above cases bear out, that with the exception of a few diseases Violet Ray merely acts as a stimulant, and like all stimulants there is a resulting kataphase after its administration. The real sphere of action of Violet Ray is limited to the treatment of the following conditions :—

- i. Rickets.
- ii. Lupus and Glandular Tuberculosis.
- iii. Anæmia, especially cases resulting from the examthamata and post-operative tonsillar conditions.

In these cases stimulation is not marked, or may be absent. It is my opinion that cases which are stimulated by Ultra Violet Ray treatment are not the ones to be ultimately benefited by it.

ACCIDENTS TO SCHOOL CHILDREN.

The following table showing the accidents which happened to school children during the year is interesting :—

(1) Total number of Accidents reported	...	...	...	...	311
(2) Number of Accidents—Minor	...	...	...	...	244
(3) Number of Accidents—Fractures	...	...	...	...	66
(4) Number of more serious Accidents	...	...	...	...	1

The following first-aid materials are provided on the Schedule of School Supplies :—

- Gauze Bandages, 1 in. in lengths of 6 yards.
- Do. 2 in. do.
- Boric Lint in rolls of 2 oz.
- Cotton Wool in cartons of 4 oz.
- Adhesive Plaster on ½-in. spools, 2½ yards long.

CRIPPLING DEFECTS AND ORTHOPÆDICS.

The arrangements for dealing with crippled children were fully described in the Annual Report for 1927. Since the publication of the report for 1928 the scheme has been further increased by the inclusion of the following Authorities :—The County Borough of Barrow-in-Furness, the Boroughs of Bacup, Eccles, Haslingden, Rawtenstall, and the Urban Districts of Ince-in-Makerfield, Newton-in-Makerfield and Tyldesley.

The following table shows the number of children treated during 1929 :—

	Ancoats Hospital.	Biddulph Hospital.	Ethel Hedley Hospital.	Rochdale Crippled Children's Home.	Myrtle Street Hospital.	Heswall Country Hospital.
In-patients, 1st Jan. 1929	...	84	14	15	4	16
Admitted during the year	2	245	45	27	41	32
Discharged during the year	2	244	42	27	43	31
Remaining on 31st Dec., 1929	...	85	17	15	2	17

### AFTER-CARE CENTRES.

The following table is a summary of the work done during the year in the After-Care Centres :—

No. of individual children attended	...	...	...	...	...	2513
Total no. of attendances made	...	...	...	...	...	11994
No. of children referred to Consultant Orthopædic Surgeon at Hospital (Ancoats or Myrtle Street)	...	...	...	...	...	223
No. of children recommended operative treatment by Orthopædic Surgeons at Centre or Hospital	...	...	...	...	...	380
No. of plasters made at Centres	...	...	...	...	...	253
No. of surgical appliances, <i>e.g.</i> , boots, irons, &c., supplied through Centres	...	...	...	...	...	980
No. of children given remedial exercises	...	...	...	...	...	803
No. of children for whom treatment has been refused by parents or guardians	...	...	...	...	...	95

The following table shows the defects from which the children seen in the After-Care Centres were suffering :—

<b>Paralysis—</b>		Sprains ... ..	10
(a) Infantile—Upper Limb ...	32	Intra Uterine Amputation of Hand ... ..	1
Lower Limb ...	273	Intra Uterine Amputation of Hand and Foot ... ..	2
Upper and Lower Limbs ... ..	25	Coxa Vara ... ..	3
(b) Spastic—Monoplegia ...	8	Nerve Injuries ... ..	3
Diplegia ...	10	Other Deformities ... ..	16
Paraplegia... ..	66	<b>Deformities, Other—</b>	
Hemiplegia ... ..	119	Pronated Feet ... ..	8
(c) Birth Palsy ... ..	66	Pes Cavus ... ..	27
<b>Deformities, Congenital—</b>		Pes Planus ... ..	145
Hydrocephalus ... ..	1	Genu Recurvatum ... ..	1
Cleft Palate ... ..	10	Claw Feet ... ..	6
Scoliosis ... ..	11	Hallux Valgus ... ..	5
Sprengel's Shoulder ... ..	8	Scoliosis ... ..	76
Rudimentary and Malformed Limbs ... ..	7	Kyphosis ... ..	89
Talipes Equino Varus ... ..	114	Lordosis ... ..	4
Talipes Equino Valgus ... ..	3	Synostosis Radius and Ulna ...	1
Pes Calcanens ... ..	14	Pseudo Coxalgia ... ..	11
Torticollis ... ..	76	Hammer Toes ... ..	9
Torticollis, Spasmodic ... ..	2	Birth Fractures ... ..	4
Spina Bifida ... ..	11	Miscellaneous ... ..	18
Spina Bifida with Club Foot ...	5	<b>Rickets—</b>	
Achondroplasia ... ..	3	Genu Varum ... ..	212
Metatarsus Varus ... ..	26	Genu Valgum ... ..	226
Absence of Bones ... ..	6	Genu Valgum and Coxa Vara ...	5
Club Hand ... ..	1	Genu Varum and Coxa Vara ...	15
Dislocation of Hip ... ..	51	Generalised ... ..	22
Subluxation of Hip ... ..	3	Acute ... ..	13
Contractions ... ..	14	Renal ... ..	1
Syndactylism ... ..	7	Delayed (Dwarf) ... ..	2
Macroductyly ... ..	2	<b>Inflamimations—</b>	
Wedged Vertebra ... ..	5	Arthritis ... ..	19
Adduction Fifth Toe ... ..	4	Arthritis, Suppurative ... ..	6
Supernumerary Digits ... ..	2	Arthritis, Infective ... ..	12
Other Deformities ... ..	28	Periostitis and Osteitis ... ..	3
<b>Deformities, Traumatic—</b>		Perthe's Disease ... ..	12
Fractures of Upper and Lower Limbs ... ..	64	Synovitis ... ..	19
Subluxations ... ..	4	Bursitis ... ..	10
Dislocations ... ..	5	Epiphysitis ... ..	1
Displaced Epiphysis ... ..	6	Pyæmia ... ..	2
Contusions ... ..	5	Schlatter's Disease ... ..	6
Tendons ... ..	2	Osteomyelitis ... ..	14
Amputations ... ..	4	Dactylitis ... ..	1
		Other ... ..	9

Tuberculosis—				Nervous Diseases—			
Active—Knee	...	...	10	Mental Deficiency	...	...	10
Hip	...	...	1	Encephalitis Lethargica	...	...	6
Spine	...	...	7	Diphtheritic Paralysis	...	...	1
Ankle	...	...	4	Progressive Muscular Atrophy...	...	...	1
Old—Knee	...	...	6	Other Medical Neuroses	...	...	11
Spine	...	...	11	Miscellaneous—			
Hip	...	...	12	Pseudo Hypertrophic Muscular			
Elbow	...	...	2	Dystrophy	...	...	6
Ankle	...	...	4	Dystrophy (unclassified)	...	...	5
Multiple	...	...	3	General Muscular Hypotonia	...	...	2
Peritonitis	...	...	1	Defective Posture	...	...	32
Tumours—				Hemihypertrophy	...	...	7
Exostosis—Multiple	...	...	1	Kohler's Disease	...	...	1
Lower Limb	...	...	2	Unclassified	...	...	138
Naevus	...	...	1				2513
Sarcoma	...	...	2				
Ganglion	...	...	8				
Chondroma	...	...	2				
Lipoma	...	...	2				
Cyst	...	...	10				
Unclassified	...	...	12				

The following table shows concisely the work done during the year in the Hospitals with which the Committee has arrangements :—

Defect.				No. of Cases treated.	Cured.	Improved.	Died.	Stationary.
Infantile Paralysis	...	...	...	51	1	46	1	3
Spastic Paralysis	...	...	...	29	...	26	...	3
Birth Palsy	...	...	...	14	...	11	...	3
Deformities—								
Congenital	...	...	...	86	26	53	...	7
Traumatic	...	...	...	15	2	12	...	1
Other...	...	...	...	26	5	18	...	3
Rickets	...	...	...	92	40	47	2	3
Inflammations—								
Arthritis	...	...	...	13	4	8	...	1
Ankylosis	...	...	...	4	1	2	...	1
Osteomyelitis	...	...	...	8	3	5	...	...
Tumours—								
Ganglion	...	...	...	3	3	...	...	...
Sarcoma	...	...	...	...	...	...	...	...
Exostosis	...	...	...	2	1	1	...	...
Pyæmia	...	...	...	1	...	1	...	...
Totals	...	...	...	344	86	230	3	25



The following table shows the number and character of the operations performed at the Committee's Hospital at Biddulph from 1st January to 31st December, 1929 :—

						No. of Operations.	
<i>Infantile Paralysis</i>	...	Correction of Claw Foot	...	...	...	7	
	...	Stabilisation of Foot	...	...	...	12	
	...	Tendon Transplantation	...	...	...	5	
	...	Arthrodesis Shoulder	...	...	...	1	
						—	25
<i>Spastic Paralysis</i>	...	Open Elongation Tendo Achillis	...	...	...	16	
	...	Correction of Claw Foot	...	...	...	5	
	...	Obturator Neurotomy...	...	...	...	3	
	...	Superior Gluteal Neurotomy	...	...	...	4	
						—	28
<i>Birth Palsy</i>	...	Exploration Brachial Plexus	...	...	...	3	
	...	Division of Internal Rotators	...	...	...	3	
	...	Arthrodesis Shoulder	...	...	...	1	
						—	7
<i>Nerve Injuries</i>	...	Exploration Musculo Spiral Nerve	...	...	...	2	
						—	2
<i>Congenital Torticollis</i>	...	Open Correction	...	...	...	17	
						—	17
<i>Congenital Club Foot</i>	...	Stabilisation	...	...	...	3	
	...	Capsulotomy	...	...	...	3	
	...	Tenotomy and Wrenching	...	...	...	20	
<i>Congenital Claw Foot</i>	...	...	...	...	...	10	
						—	36
<i>Congenital Dislocation of the Hip</i>	...	Manipulation	...	...	...	9	
	...	Construction of Acetabular Shelf	...	...	...	6	
	...	Arthrotomy	...	...	...	1	
						—	16
<i>Rickets</i>	...	Osteotomy for Genu Valgum	...	...	...	28	
	...	Osteoclasis for Genu Varum	...	...	...	8	
						—	36
<i>Tuberculosis Arthritis Hip</i>	...	Extra articular Arthrodesis	...	...	...	2	
<i>Infective Arthritis Hip</i>	...	Reconstruction or Arthrodesis	...	...	...	2	
	...	Subtrochanteric Osteotomy	...	...	...	2	
<i>Cong. Coxa Vara</i>	...	Wedge Transtrochanteric Osteotomy	...	...	...	1	
						—	7
<i>Infective Arthritis Knee</i>	...	Arthrodesis	...	...	...	3	
<i>Fractures...</i>	...	Malunion	...	...	...	5	
<i>Osteomyelitis</i>	...	Removal Sequestra	...	...	...	2	
<i>Miscellaneous</i>	...	Baker's Cysts, Amputation, &c.	...	...	...	18	
						—	28
							<u>202</u>

The following table gives particulars of the 226 cases admitted to the Committee's Hospital at Biddulph during the year :—

<i>Bone Diseases</i>	...	Infantile Rickets	...	...48 cases	}	...	55
	...	Adolescent Rickets	...	... 5 „			
	...	Renal Rickets	...	... 2 „			
	...	Pyogenic Infections	}	...	...	...	4
	...	Osteomyelitis					
<i>Bone Injuries</i>	...	Old Fractures	...	...	...	...	11
<i>Diseases of Joints</i>	...	Old Tubercular Hips	...	...	...	...	4
	...	Old Infective Arthritis Hips	...	...	...	...	4
	...	Other Joint affections	...	...	...	...	5
<i>Diseases of Muscle Tendons and Subcutaneous Tissues</i>		...	...	...	...	...	10
<i>Diseases of Nervous System (Central)</i>	...	Spastic Paraplegia	...	...	...	...	13
	...	„ Hemiplegia	...	...	...	...	14
	...	Anterior Poliomyelitis...	...	...	...	...	34



### STATISTICS OF MEDICAL TREATMENT.

The following tables show the amount of treatment which has been obtained during 1929. The kind of treatment and the results are also specified.

The first set of tables gives this information about those children who were examined at the routine medical inspection immediately preceding, *i.e.*, in general, those children whose medical inspection took place in 1928.

#### TREATMENT OF DEFECTS.

##### New Cases.

DISEASE OR DEFECT.	NUMBER OF CHILDREN.								
	Referred for Treat- ment.	Treated.			Result.			Un- treated.	No Infor- mation.
		Under Autho- rity's Scheme.	Other- wise.	Total.	Cured.	Im- proved.	Un- changed		
	1	2	3	4	5	6	7	8	9
Minor Ailments (Skin)—									
Ringworm—Scalp ...	114	47	63	110	99	10	1	...	4
Ringworm—Body ...	33	13	18	31	31	...	...	...	2
Scabies ...	33	8	25	33	33	...	...	...	...
Impetigo ...	572	254	303	557	540	11	6	4	11
Other Skin Disease ...	284	86	159	245	198	37	10	7	32
Ear Disease ...	643	198	276	474	243	182	49	68	101
Eye Disease (external and other)	634	215	321	536	410	109	17	35	63
Dental Disease ...	3251	918	772	1690	1150	501	39	861	700
Other Diseases ...	1712	529	786	1315	581	648	86	203	194

#### TREATMENT OF VISUAL DEFECT.

##### NUMBER OF CHILDREN.

Referred for Refraction.	Submitted to Refraction.				Result of Refraction.							Not Re- fracted.	No informa- tion.
	Under Au- thority's Scheme— Clinic or Hospital.	By Private Prac- titioner or Hospital.	Other- wise.	Total.	Under Authority's Scheme— Clinic or Hospit <sup>l</sup>		By Private Practitioner Hospital or otherwise.		Treatment other than by Glasses.		For whom no Treat- ment was considered necessary.		
					Glasses Prescrbd.	Glasses Obtained.	Glasses Prescrbd.	Glasses Obtained.	Recom- mended.	Re- ceived.			
3075	2037	115	160	2312	1905	1745	245	218	35	32	127	439	324

#### TREATMENT OF DEFECTS OF NOSE AND THROAT.

Referred for Treatment.	NUMBER OF CHILDREN.				Un-treated.	No information.
	Received Operative Treatment.			Received other forms of Treatment.		
	Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.			
1995	925	155	1080	189	475	251



The following set of tables gives similar information about those children who were recommended to obtain treatment at any inspection prior to the last :—

TREATMENT OF DEFECTS.  
*Old Cases.*

DISEASE OR DEFECT.	NUMBER OF CHILDREN.								
	Re-ferred for Treat-ment.	Treated.			Result.			Un-treated.	No Infor-mation.
		Under Autho-rity's Scheme	Other-wise.	Total.	Cured.	Im-proved.	Un-changed		
	1	2	3	4	5	6	7	8	9
Minor Ailments (Skin)—									
Ringworm—Scalp ...	16	3	11	14	13	1	...	...	2
Ringworm—Body ...	2	1	1	2	2	...	...	...	...
Scabies ...	1	1	...	1	1	...	...	...	...
Impetigo ...	34	11	23	34	34	...	...	...	...
Other Skin Disease ..	41	14	22	36	33	2	1	...	5
Ear Disease ...	203	36	64	100	53	43	4	30	73
Eye Disease (external and other)	51	12	19	31	17	8	6	8	12
Dental Disease ...	556	99	141	240	91	143	6	135	181
Other Diseases ...	278	44	80	124	54	53	17	53	101

TREATMENT OF VISUAL DEFECT.

Referred for Refrac- tion.	NUMBER OF CHILDREN.													
	Submitted to Refraction.				Result of Refraction.								Not Re- fracted.	No infor- mation.
	Under Au- thority's Scheme— Clinic or Hospital.	By Private Prac- titioner or Hospital.	Other- wise.	Total.	Under Authority's Scheme— Clinic or Hospit'l	By Private Practitioner Hospital or otherwise.		Treatment other than by Glasses.		For whom no Treat- ment was considered necessary.				
						Glasses Prescrbd.	Glasses Obtained.	Glasses Prescrbd.	Glasses Obtained.		Recom- mended.	Re- ceived.		
533	191	12	87	290	189	126	82	51	5	3	14	109	134	

TREATMENT OF DEFECTS OF NOSE AND THROAT.

Referred for Treatment.	NUMBER OF CHILDREN.					
	Received Operative Treatment.			Received other forms of Treatment.	Un-treated.	No information.
	Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.			
554	98	39	137	42	204	171

## OPEN-AIR EDUCATION.

No special Open-air Schools exist in the Authority's area, but in warm weather many classes, especially in the Infant Departments, are taken outside.

## PHYSICAL TRAINING.

The physical training, as described in previous Reports, is under the general supervision of the County Medical Officer and his staff. During the year the Inspector of Physical Exercises visited 354 schools (375 Departments) and examined the children in physical exercises and organised games.

Grants in aid of organised games have been made by the Elementary Sub-Committee of the Education Committee for the past ten years, the amount of the grants having steadily increased.

This year again shows an enlargement in the scope of the arrangements for Organised Games in the schools. New Associations continue to be formed in all parts of the County, and there is no sign of any diminution in the enthusiasm with which the established Associations are maintained. The organisation of games is difficult in many of the rural areas of the County, as many of the schools do not contain a sufficient number of older boys or girls to produce a team for either sex, and even where the numbers are sufficient distances make it difficult to arrange inter-school matches; several Associations are however now flourishing in such areas. It is interesting to note that in some cases, where the provision of facilities would otherwise be impossible, two small schools in the same village have joined together to provide joint teams. Football remains the predominant game of nearly all Associations, the organisation of cricket being more affected by the weather, the shortness of the season, and the incidence of the summer holidays. There is a steady increase in the organisation of games for girls, and in addition to Rounders many schools are now playing Stoolball and Net-ball. The development of Hockey, however, is seriously handicapped in many districts by the lack of suitable playing fields.

The Committee's Regulations allow of a Grant equal to half the expenditure of an Association during the year, with a maximum grant of £50, so that considerable sums must be raised from voluntary sources by all Grant-Aided Associations. There are, moreover, various Schools and Associations which do not ask for assistance from the Education Committee, and some of these Associations are not only self-supporting, but also make contributions to charities. As the whole of the work involved both by the raising of funds and the organisation of games is voluntarily undertaken by the teachers out of school hours, in addition to their ordinary duties, the Committee will realise how much of the progress in this branch of activities is due to the interest and enthusiasm of the teachers. Considerable help can be and is given every year by patrons, who present trophies for competition, and by members of the Local Committees, the Managers of schools and the District Clerks.

## SWIMMING.

Great enthusiasm is shown as regards instruction in Swimming in nearly all schools in the County which are within convenient reach of a Swimming Bath, and a great increase in the number of children participating is only prevented by the inaccessibility of a Bath or inadequate facilities for the required numbers. Many schools attend Baths provided by neighbouring Boroughs, and the Borough Authorities have proved very willing to arrange times to suit the schools, and in many cases to loan the services of the Borough Swimming Instructors for the fee charged. One Borough allows school children attending during term-time to attend at the same times weekly during the holidays without further charge.

Instruction in Swimming in many schools has to be confined to teaching to swim a short distance, owing to lack of facilities, but wherever there is accommodation distance swimming, diving and life-saving are encouraged, and annual Galas are usually held in this connection. Frequent reference is made in the reports from the schools to the improvement in the physique and cleanliness of children receiving instruction.



## PROVISION OF MEALS FOR ELEMENTARY SCHOOL CHILDREN.

During the year 1928, there were requests from several districts for the sections of the Education Act, 1921, relating to the Provision of Meals to be put into operation. A special enquiry was made in certain districts with regard to the health of the school children, and a summary of this enquiry was contained in the Annual Report for 1928.

In November, 1928, the Lancashire Education Committee authorised the County Medical Officer to supply, on medical grounds, one pint of milk on each school day to every child in the Westhoughton Schools (District 21) who, in the opinion of the Assistant Medical Officer, was suffering from malnutrition, the result of insufficient nourishment, and whose parents were not in a position, as determined by the Maternity and Child Welfare Committee's milk scale, to provide the nourishment themselves.

The County Medical Officer was also authorised to make permanent provision, either through School Clinics or Child Welfare Centres, on the same income basis, for the supply of Cod Liver Oil, or Cod Liver Oil and Malt to school children who, in the opinion of the Assistant County Medical Officer, required this special form of nourishment.

The County Council was asked for a vote of £1,500 to cover the cost of providing the above medical comforts during the remaining part of the financial year ending on the 31st March, 1929.

The Lancashire Education Committee gave power to the Chairman of the School Medical Sub-Committee to deal on the above lines with any applications from other Local Areas that might be received.

This supply of milk, &c., was given as part of the general arrangements made by the Authority under the Education Act, 1921, Section 80, Sub-section 1, for attending to the health and physical condition of children educated in Public Elementary Schools and not under Sections 82 to 85 of the same Acts, relating to the Provision of Meals. Under these arrangements the provision of milk was commenced in certain schools about the middle of December, 1928. Early in 1929, milk was provided to Elementary School children in the following townships :—Haydock, Newton-in-Makerfield, Warrington Rural District, Tyldesley, Atherton, and Leigh Rural District (Astley).

Shortly after the introduction of this scheme there were recommendations from two districts that mid-day meals should be provided, one of the recommendations being on the grounds that the supply of milk did not meet the situation caused by the undernourished condition of a number of the school children. It was, however, decided to continue the provision of milk in preference to mid-day meals.

Two of the Local Education Committees were of the opinion that the scale of income was fixed so low that a large number of necessitous children were deprived of the benefits of the scheme. There was also a recommendation that the meals should be given on economic grounds as well as on medical grounds. In January, 1929, the Lancashire Education Committee adopted a more liberal scale of income and decided that where the income of the family was within this scale, all children in the family attending an Elementary School should be supplied with one pint of milk per day and/or Cod Liver Oil or Cod Liver Oil and Malt on each school day in any area in the Administrative County which makes application through its Local Area Committee. This obviated the necessity for the examination of the children by the Assistant County Medical Officer.

The Board of Education on considering this revised scheme advised the Lancashire Education Committee to carry out this scheme under Sections 82 to 85 of the Education Act, 1921, and the necessary resolution was passed by the Lancashire Education Committee in February, 1929. It was also decided that the operation of these Sections of the Education Act should be continued while the necessity remains.

The question then arose as to the type of meals to be provided to school children, and at a special meeting of the School Medical Sub-Committee at the end of February, 1929, it was decided :—

That, under the Education Act, 1921 (Sections 82/85) a mid-day meal on school days be provided for those children who come within the scale of income adopted by the Committee in January, 1929; that in isolated and rural districts where the administrative difficulties of central feeding are very great, one pint of milk per day per child be provided as at present, and that pending the making of administrative arrangements for providing meals, the resolution authorising the provision of milk be retained in operation.



In a few of the townships the change from provision of milk to mid-day meals was carried out about the middle of March, 1929.

In June, 1929, it was decided to supply mid-day meals or milk on days when the schools are closed (excluding Saturdays and Sundays).

At the end of 1928 and the beginning of 1929, when fresh milk was being supplied on medical grounds, the Head Teachers of the schools were asked to prepare lists of children who appeared to be under-nourished, and the Assistant County Medical Officer examined these children together with any others who came to his notice. The Assistant County Medical Officer forwarded to the District Clerk a list of these children who, he considered, should be supplied on medical grounds with one pint of milk daily, and the District Clerk then made arrangements for the financial circumstances of each case to be investigated. As soon as these investigations had been completed, arrangements were made for the supply of milk to the schools. The District Clerk was responsible for the ordering of the necessary quantity of milk. Each Head Teacher was supplied by the District Clerk with a list of the names and addresses of all children in his school who should be supplied with fresh milk, and the actual distribution of milk, half-pint at the morning session and half-pint at the afternoon session, was carried out by the Teachers.

The decision to provide a milk meal to under-nourished children was based on medical and scientific consideration primarily.

There is no doubt that the great bulk of malnutrition which is not due to disease, or bad hygienic conditions and habits, is caused not so much by actual lack of food as by the improper selection or preparation of food. When the income of a family is reduced the quality rather than the quantity of the dietary is lessened, and the cheaper foods are bought. This means that the family exists more on carbohydrates, chiefly in the form of bread and potatoes, which are less expensive—and less on proteids and fats, which are more expensive. The problem of nutrition is, therefore, to supplement and correct the defective diet by adding proteid and fat, so as to restore the proper balance of carbohydrate, proteid and fat.

One of the most valuable foods is milk, which is relatively rich in both proteid and fat.

When it was decided to substitute a mid-day meal for a milk meal arrangements were made, as far as possible for the meals to be provided at central feeding premises which are not Elementary Schools, and in most cases the meals are provided by contract by local caterers. In a few cases, owing to the small number of children being fed, it has been found necessary to make arrangements for the meals to be provided at cafes. Rent is paid for the use of rooms where mid-day meals are provided, and where possible a School Attendance Officer acts as superintendent of the feeding centre. In some cases it has been found necessary to appoint superintendents of the feeding centres, and in the majority of cases assistants have been appointed to do such duties as preparing the rooms, serving the meals and cleaning the rooms up afterwards. These superintendents and assistants are paid a daily wage. The Lancashire Education Committee had provided the necessary utensils such as basins, spoons, &c., and where necessary gas boilers, tables, forms, &c., have also been provided.

The older boys and girls are encouraged to help in the serving of meals and washing up.

Registers are kept at the feeding centres, and from these it is easy to obtain the number of individual children fed and the number of meals consumed. This information has been forwarded each week to the Board of Education.

The following table shows the Townships in which Meals were provided, the Number of Meals, and their Cost :—

Area No.	Township.	Amount spent.		No. of meals provided.	Average cost per meal per child.	
		Food.	Total.		Food.	Total.
		£ s. d.	£ s. d.			
4	Thornton ... ..	18 9 3	30 3 3	1094	4·05	6·62
14	Adlington ... ..	143 12 4	256 6 0	8377	4·11	7·34
	Chorley R.D. (Coppull)	339 16 11	438 17 9	20350	4·01	5·18
18	Standish ... ..	322 18 11	451 19 0	25529	3·04	4·25
	Blackrod ... ..	111 13 9	210 8 9	6520	4·11	7·75
	Aspull ... ..	425 0 9	646 6 8	24989	4·08	6·21
	Wigan R.D. (Crooke)	112 7 0	201 1 10	8470	3·18	5·70
19	Ashton-in-Makerfield...	1189 15 8	1616 7 2	71387	4·00	5·43

Area No.	Township.	Amount spent.		No. of meals provided.	Average cost per meal per child.	
		Food.	Total.		Food.	Total.
21	Westhoughton... ..	668 19 11	1023 8 0	34922	4·60	7·03
	Horwich ... ..	79 15 8	136 8 3	4813	3·98	6·80
22	Kearsley ... ..	441 15 0	628 8 6	22680	4·67	6·65
	Little Hulton ... ..	381 14 1	486 15 4	16908	5·42	6·91
	Little Lever ... ..	119 15 0	178 3 5	5455	5·27	7·84
	Barton-upon-Irwell R.D. (Clifton)	8 16 3	13 18 8	423	5·00	7·91
25	Whitefield ... ..	8 14 2	12 8 1	418	5·00	7·12
	Prestwich ... ..	135 7 11	182 3 2	6427	5·06	6·80
	Bury R.D. (Outwood)	192 5 5	245 12 4	9229	5·00	6·39
30	Haydock ... ..	1309 2 2	1761 7 0	80310	3·91	5·26
	Newton-in-Makerfield	998 5 2	1285 12 0	62551	3·83	4·93
	Warrington R.D. (Burtonwood and Orford)	492 8 2	666 17 7	29841	3·96	5·36
31	Tyldesley ... ..	383 13 6	471 19 5	20603	4·47	5·50
	Atherton ... ..	250 2 8	331 13 11	13466	4·46	5·91
	Leigh R.D. (Astley) ...	214 12 1	296 19 0	12366	4·17	5·76
34	Worsley ... ..	630 8 3	855 17 2	34710	4·36	5·92
		8979 10 0	12429 2 3	521838	4·13	5·72

The following table shows the Townships in which fresh milk was provided, the quantity of milk and the cost:—

Area No.	Township.	Amount spent.		No. of pints of milk provided.	Average cost per pint.	
		Milk.	Total.		Milk.	Total.
1		£ s. d.	£ s. d.			
	Dalton ... ..	435 6 10	446 10 5	46175	2·26	2·32
	Ulverston ... ..	100 18 5	111 1 1	10559	2·29	2·52
	Ulverston R.D. ...	122 18 6	132 10 6	12711	2·32	2·50
14	Withnell ... ..	24 3 9	34 17 9	1892	3·07	4·43
	Adlington ... ..	16 9 10	18 0 8	1341	2·95	3·23
	Chorley R.D. ... ..	121 2 1	126 9 7	9754½	2·98	3·11
15	Chorley R.D. ... ..	41 17 1	52 7 7	3553	2·83	3·54
18	Standish ... ..	26 8 7	26 8 7	2275	2·79	2·79
	Blackrod ... ..	43 11 11	45 13 2	3465	3·02	3·16
	Aspull ... ..	34 18 9	34 18 9	2912	2·88	2·88
	Wigan R.D. ... ..	53 3 3	56 12 0	4997	2·55	2·72
19	Upholland ... ..	101 8 6	110 11 10	10052	2·42	2·64
	Orrell ... ..	306 19 0	317 11 4	30537½	2·41	2·50
	Abram ... ..	73 7 5	82 10 9	6900	2·55	2·87
21	Westhoughton ...	30 9 6	30 9 6	2653	2·76	2·76
30	Haydock ... ..	20 4 3	22 8 9	1617	3·00	3·33
	Newton-in-Makerfield	42 13 5	45 19 11	3578	2·86	3·09
	Warrington R.D. ...	246 16 9	255 18 5	21229	2·79	2·89
31	Tyldesley ... ..	18 10 11	18 10 11	1272	3·50	3·50
	Atherton ... ..	16 7 5	16 7 5	1123	3·50	3·50
	Leigh R.D. ... ..	5 2 4	5 2 4	351	3·50	3·50
33	Irlam ... ..	124 8 11	144 8 11	10168	2·94	3·41
		2007 7 5	2135 10 2	189115	2·55	2·71

The following table shows the Number of individual Children in each Township who have been provided with either Milk or Mid-day Meals :—

Township.	No. of individual children who received	
	Milk.	Mid-day Meals.
Dalton ... ..	471	...
Ulverston ... ..	135	...
Ulverston R.D. ... ..	163	...
Thornton ... ..	...	72
Withnell ... ..	22	...
Adlington ... ..	35	68
Chorley R.D. ... ..	245	177
Standish ... ..	83	218
Blackrod ... ..	56	36
Aspull ... ..	113	155
Wigan R.D. ... ..	64	52
Upholland ... ..	100	...
Orrell ... ..	336	...
Ashton-in-Makerfield ... ..	...	581
Abram ... ..	93	...
Westhoughton ... ..	70	351
Horwich ... ..	...	101
Kearsley ... ..	...	271
Little Hulton ... ..	...	184
Little Lever ... ..	...	53
Barton-upon-Irwell R.D. ... ..	...	25
Whitefield ... ..	...	12
Prestwich ... ..	...	76
Bury R.D. ... ..	...	97
Royton ... ..	...	3
Haydock ... ..	52	670
Newton-in-Makerfield ... ..	73	570
Warrington R.D. ... ..	267	248
Tyldesley ... ..	34	166
Atherton ... ..	43	101
Leigh R.D. ... ..	9	73
Irlam ... ..	69	...
Worsley ... ..	...	291
Totals ... ..	2533	4651

During the year quantities of Cod Liver Oil and Malt, &c., as shown below, were supplied to necessitous under-nourished school children :—

		£	s.	d.
5826 lb. Cod Liver Oil and Malt	... at a cost of	234	12	10
252 bottles Cod Liver Oil	... ..	6	0	4
89 bottles Aberdeen Emulsion	... ..	4	9	0
32 lb. Vitamalt	... ..	2	5	4

In a letter from the Board of Education relating to a report by one of the Board's Medical Inspectors after his recent visit to Lancashire, it is stated that "It is evident that the Authority's School Medical Service and their arrangements for the provision of meals, combined with the efforts made by the parents themselves, have been highly successful in maintaining a good standard of physical well-being among the school children of the County."

#### CO-OPERATION OF PARENTS.

During the year the Medical Officers interviewed 5,709 parents in schools and visited 1,037 homes, whilst the Nurses interviewed in school 1,083 parents and visited 15,473 homes ; 104,458 attendances were made by children of pre-school age at Child Welfare Centres, each one representing an interview of a parent with either Doctor or Nurse.

In addition, the Nurses paid 96,369 visits to the homes of young children, infants or expectant mothers. The opportunities thus shown for interviews with parents are frequent, and there is, at the present time, scarcely any of the hostility which was not uncommon in the early days of School Medical Inspection.



### CO-OPERATION OF TEACHERS.

Teachers still continue to take an eager interest in the work of medical inspection and place all facilities at the disposal of the Medical Officer and School Nurse. Their advice with regard to home conditions and status of pupils and parents is always welcomed.

### CO-OPERATION OF SCHOOL ATTENDANCE OFFICERS.

The following table shows some of the figures relating to the School Attendance Officers' duties in 1929 :—

No. of interviews with Medical Officers	...	...	...	1,272
No. of interviews with School Nurses	...	...	...	1,918
No. of visits to homes, arising out of Medical Inspection	...	...	...	1,884
No. of cases specially presented to the Medical Officers and School Nurses	...	...	...	2,045

### CO-OPERATION OF RATE-AIDED AND VOLUNTARY BODIES.

The Medical Officers are in touch with the rate-aided bodies such as Boards of Guardians and District Councils, the School Attendance Officers, School Nurses and Health Visitors very often being the medium of communication.

The Attendance Officers continue to perform numerous duties not directly connected with school attendance. The supervision of the employment of children entails work at irregular hours and often on Saturdays and Sundays. Other work connected with the physical welfare of children and with the activities of the School Medical Department continues to increase. Cases where children are neglected by their parents are frequently dealt with in co-operation with the National Society for the Prevention of Cruelty to Children without resorting to prosecution. The Attendance Officers are also frequently called on to arrange for sending children to convalescent homes or to the seaside for recuperation after illness, and they are often closely concerned with the arrangements for the transfer of children to Special Schools. The Annual Reports from the districts invariably record gratifying instances of active philanthropic work.

The Local Area Clerks are fully acquainted administratively and otherwise with the voluntary agencies for the relief of necessitous school children.

### BLIND, DEAF, DEFECTIVE, AND EPILEPTIC CHILDREN.

The methods and policy of the Committee for ascertaining and dealing with children who are defective within the meaning of the Elementary Education (Blind and Deaf Children) Act, 1899 and 1914, are unchanged and have previously been described.

#### BLIND CHILDREN.

The number of children on the Special Register who were considered as blind children in the year 1929 was 79 boys and 63 girls. Of these, 12 boys and 16 girls were totally blind, and 67 boys and 47 girls had some residual vision.

Attending Certified Schools or Classes for the Blind were 33 boys and 37 girls. During the year 9 blind children were reported on, and in the following table the causes of blindness are reported as :—

Nystagmus	...	...	...	...	...	...	1
Ophthalmia Neonatorum	...	...	...	...	...	...	1
Congenital	...	...	...	...	...	...	1
Congenital Cataracts	...	...	...	...	...	...	1
Myopia	...	...	...	...	...	...	2
High Myopia	...	...	...	...	...	...	2
Optic Atrophy	..	...	...	...	...	...	1
							9

The number of children of Elementary School age who were maintained in 1929 at the following Institutions for the Blind was 33 boys and 37 girls. The annual cost of maintenance was £4000 or an average cost of £57 2s. 10d. a child.

	Boys.	Girls.	Total.
Burnley Blind School	1	1	2
Catholic Blind Asylum, Liverpool	2	5	7
Homes for the Blind, Fulwood	11	5	16
Liverpool School for the Blind	4	5	9
Oldham Blind School	5	2	7
Thomasson Memorial School, Bolton	3	6	9
Henshaw's Institution, Manchester	7	11	18
Sunshine Home, Southport	—	2	2
	33	37	70

## DEAF CHILDREN.

On the Register for 1929 there were 90 boys and 73 girls, of whom 35 boys and 31 girls were totally deaf, and 55 boys and 42 girls had residual hearing. Of all these 163 children, there were in attendance at the Special Certified Schools or Classes for the Deaf 50 boys and 45 girls, as shown below. The annual cost of maintenance was £6403, or an average cost of £67 8s. 0d. a child.

	Boys.		Girls.		Total.
Burnley Deaf School ... ..	3	...	2	...	5
Liverpool School for the Deaf... ..	4	...	4	...	8
Oldham Deaf School ... ..	1	...	2	...	3
Royal Schools for the Deaf, Manchester	20	...	21	...	41
St. John's Institution, Boston Spa ...	4	...	2	...	6
Thomasson Memorial School, Bolton...	3	...	6	...	9
Royal Cross Schools for the Deaf, Preston	15	...	8	...	23
	—		—		—
	50	...	45	...	95
	==		==		==

During the year 8 deaf children of Elementary School age were reported on, and the following causes of their deafness are shown :—

Congenital ... ..	5
Meningitis ... ..	2
Double Ottorrhoea ... ..	1
	—
	8
	==

The importance of sending these cases for special training at the earliest age, at four if possible, cannot be sufficiently impressed on parents and teachers ; time lost at the beginning can never be recovered.

## EPILEPTIC CHILDREN.

On the Register there are noted 148 boys and 72 girls as suffering from Epilepsy, of whom 48 are severe and 172 not severe. Eleven of these children are maintained at Institutions for Epileptics, at a cost of £777, or an average cost of £70 12s. 9d. a child.

## MENTALLY DEFECTIVE CHILDREN.

There were, in 1929, 404 children noted in the Elementary Education Area as being feeble-minded, viz., 234 boys and 170 girls. In addition, 27 children were notified to the Local Control Authority, in this case the Lancashire Asylums Board, as being ineducable.

## EDUCATION OF THE BLIND.

The education of a blind child may begin shortly after birth. Babies can obtain admission, under the Maternity and Child Welfare Act Schemes, to the Sunshine Homes for the Blind, where they are maintained and receive their preliminary training such as any normal infant might receive until they reach the age of seven. On reaching school age the circumstances of each case are investigated and a suitable School for the Blind is found where the child is trained in ordinary Elementary School subjects until he reaches the age of sixteen. During these years the child learns to read by the use of Braille's method. At the age of sixteen the case passes out of the hands of the Elementary Committee.

A blind child is a child who is too blind to read the ordinary school books used by children. On finishing his education in the Elementary School the child now has to be re-examined with a special view to his classification as a blind person, for which a different standard is set up. A blind person is a person who is too blind to perform any work for which eyesight is essential. It sometimes happens, therefore, that children who have been educated as blind children are not accepted as blind persons because they happen to possess the minimum amount of eyesight requisite for some occupation in which the best eyesight is not essential. These are undoubtedly hard cases, and it does not seem right that certain children should be educated in a blind school and then turned adrift to seek their living as best they may at the age of sixteen. Other cases who can be accepted as blind persons are given the opportunity either of continuing their education under the Higher Education Committee, or of obtaining some vocational training at the Residential Institutions in the County.





## BLACKBURN WORKSHOPS FOR THE BLIND.

						Males.	Females.	Total.
Chair Caning and Rush Seating	...	...	...	...	...	-	1	
Total	...	...	...	...	...	-	1	1

## BURNLEY WORKSHOPS FOR THE BLIND.

Machine Knitting	...	...	...	...	...	-	2	
Boot Repairing	...	...	...	...	...	2	-	
Total	...	...	...	...	...	2	2	4

## BOLTON WORKSHOPS FOR THE BLIND.

Brush Making	...	...	...	...	...	5	-	
Cane Seating	...	...	...	...	...	-	2	
Skip Making	...	...	...	...	...	3	-	
Basketry	...	...	...	...	...	-	1	
Hand Knitting and Rug Making	...	...	...	...	...	-	1	
Mat Making	...	...	...	...	...	5	-	
Rug Making, Basketry and Knitting...	...	...	...	...	...	-	1	
Total	...	...	...	...	...	13	5	18

## HENSHAW'S INSTITUTION FOR THE BLIND, MANCHESTER.

Mat Making	...	...	...	...	...	3	-	
Piano Tuner and Repairer	...	...	...	...	...	2	-	
Machine Knitter	...	...	...	...	...	-	5	
Skip Making and Repairs in Cane Work	...	...	...	...	...	2	-	
Brush Making	...	...	...	...	...	4	-	
Light Basketry	...	...	...	...	...	-	4	
Boot Repairing	...	...	...	...	...	3	-	
Furniture	...	...	...	...	...	2	-	
French Polishing	...	...	...	...	...	-	1	
Music	...	...	...	...	...	-	1	
Total	...	...	...	...	...	16	11	27

## HOMES FOR THE BLIND, FULWOOD.

Brush Making	...	...	...	...	...	5	-	
Machine Knitting and Cane Chair Seating	...	...	...	...	...	-	1	
Boot Repairing	...	...	...	...	...	5	-	
Cane and Rush Seating	...	...	...	...	...	-	1	
Machine Knitting	...	...	...	...	...	-	3	
Total	...	...	...	...	...	10	5	15

## ROYAL NORMAL COLLEGE, LONDON.

Teacher of Music	...	...	...	...	...	-	1	
Total	...	...	...	...	...	-	1	1

## WORCESTER COLLEGE FOR THE BLIND.

Masseur	...	...	...	...	...	1	-	
Total	...	...	...	...	...	1	-	1

Totals, Males	...	...	...	...	...	51		
Totals, Females	...	...	...	...	...	30		
Total	...	...	...	...	...	81		

## EDUCATION OF DEAF CHILDREN.

A deaf child is a child who is too deaf to be taught in a class of hearing children in an Elementary School. On reaching school age these children are reported on in the same way as blind children, and at the earliest possible moment they are transferred to special schools for the deaf and dumb. Here the dumb children are taught to speak, and their education under the Elementary Committee is continued until the age of sixteen. After this age they may obtain a Secondary Education under the Higher Education Committee, or again may receive, like the blind, vocational training. There are not, however, so many Voluntary Agencies immediately interested in the care of the deaf and dumb as in the care of the blind, and the problem of finding work for a deaf and dumb person is very difficult. They may, of course, be trained in any of the usual eyesighted occupations, such as carpentry, tailoring, shoemaking and baking, but their employment in a hearing world has many difficulties attached to it.

## SECONDARY, CONTINUATION, AND TECHNICAL SCHOOLS.

The medical inspection of the pupils in attendance at Secondary, Continuation, and Technical Schools was commenced on 1st September, 1920, and is confined to those schools provided by or wholly financed by the Committee.

At the present time there are 52 schools, consisting of 40 Secondary Schools, 8 Technical Schools, and 4 Continuation Schools in which medical inspection is conducted.

The girls attending these schools are medically examined by a woman Medical Officer. The boys are examined by the male Medical Officers, each Assistant County Medical Officer being responsible for the inspection of the boys of the schools within his own area, and also in the adjoining areas in those cases where the Medical Officer in charge is a woman.

The medical staff have again received the whole-hearted co-operation of most of the teachers, and also of the parents of those pupils who required treatment.

## METHOD OF INSPECTION.

The methods of inspection were described in detail in previous Annual Reports, and they need not be repeated here.

In the following table the pupils attending these schools are shown in two groups, *i.e.*, those attending Secondary Schools and those attending Technical and Continuation Schools. The table shows the number of pupils examined during 1929 in the various age groups :—

Age.	Secondary Schools.		Technical and Continuation Schools.	
	No. of Pupils examined.		No. of Pupils examined.	
	Boys.	Girls.	Boys.	Girls.
8	31	1	...	...
9	81	13	...	...
10	183	45	...	...
11	642	206	...	...
12	1,230	413	19	1
13	1,236	497	128	5
14	1,206	422	149	160
15	1,075	349	127	132
16	530	197	82	...
17	208	112	10	...
18	94	47	4	...
19	10	7	...	...
TOTALS ... ..	6,526	2,309	519	298





## Boys.

## Girls.

			Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	
Ear Diseases.	{	Defective Hearing .....	T	0.4	0.2	0.1	0.1	0.1	0.2	...	0.4	0.7	1.4	0.9	1.1	1.0	0.6
		O	0.4	0.7	0.7	0.4	0.3	0.9	0.3	0.4	0.7	1.6	1.7	...	0.5	1.2	
		Otitis Media .....	T	0.1	0.1	0.2	0.1	0.2	0.2	...	0.4	0.2	...	...	0.9	0.5	...
		O	0.1	0.1	0.1	...	0.2	0.2	...	0.4	...	...	...	...	...	...	0.6
{	Other Ear Diseases .....	T	0.3	0.3	0.2	0.2	0.1	0.8	0.6	...	0.2	0.4	0.2	...	...	...	
	O	0.4	0.2	0.1	0.2	0.1	...	...	...	...	...	0.2	...	...	...	...	
	Enlarged Tonsils .....	T	0.9	1.0	0.6	0.7	1.0	0.4	0.6	5.3	2.7	2.8	1.4	1.7	2.0	1.8	
	O	10.0	10.7	9.8	8.0	5.4	6.0	5.4	14.0	14.8	15.5	13.7	10.9	6.1	6.0	...	
{	Adenoids.....	T	0.1	0.1	0.2	0.2	...	0.2	...	0.4	0.2	...	0.2	...	0.5	...	
	O	0.2	0.7	0.8	0.7	0.3	0.6	...	1.1	0.2	...	...	...	...	...	...	
	Enlarged Tonsils and Adenoids ..	T	...	0.5	0.3	0.7	0.3	...	...	0.8	0.2	...	0.5	...	0.5	...	
	O	1.0	1.2	1.5	1.3	1.0	0.4	0.3	...	0.2	0.8	0.5	1.4	...	...	...	
{	Enlarged Cervical Glands .....	T	...	...	...	...	...	...	...	0.2	...	0.2	...	0.5	...	...	
	O	3.7	4.1	3.5	4.2	1.9	1.5	2.2	4.5	2.9	2.2	1.7	1.7	0.5	...	...	
	(Non-Tubercular)	O	...	...	...	...	...	...	...	0.2	...	0.2	...	0.5	...	...	
	Defective Speech .....	T	...	...	...	0.1	...	...	...	...	...	...	...	...	...	...	
{	O	0.7	0.5	0.5	0.3	0.4	0.2	...	...	0.2	0.6	...	0.3	...	...	...	
	Four or more Carious .....	T	11.0	9.5	9.1	10.6	9.2	9.8	12.2	7.5	8.0	7.4	9.2	16.0	16.2	10.2	
	O	2.7	2.1	1.7	1.7	1.0	1.5	1.0	3.0	1.0	3.4	1.4	2.0	2.5	2.4	...	
	Sepsis .....	T	0.4	0.7	0.1	0.4	...	0.2	0.6	...	...	0.2	0.6	...	...	...	
{	O	...	0.2	...	...	...	...	...	...	...	0.2	...	...	...	...	...	
	Organic .....	T	...	0.1	...	...	...	...	...	...	...	...	...	...	...	...	
	O	0.3	0.4	0.3	0.4	0.8	0.8	0.6	0.8	...	1.0	0.2	0.3	1.0	...	...	
	Functional .....	T	...	...	...	...	0.1	...	...	...	...	...	...	...	...	...	
{	O	1.8	2.1	2.1	1.9	2.1	1.7	1.6	0.8	0.5	0.4	0.5	0.6	0.5	2.4	...	
	Anæmia .....	T	0.2	...	...	...	...	...	0.8	1.5	0.4	1.4	1.7	1.0	1.2	...	
	O	0.4	0.6	0.2	0.3	0.1	...	0.3	0.8	1.2	1.4	1.4	1.7	2.5	1.8	...	
	Bronchitis .....	T	0.2	0.1	...	...	...	...	...	...	...	...	...	...	...	...	
{	O	1.5	1.0	1.4	1.5	1.0	0.2	1.0	...	...	...	0.2	0.3	...	...	...	
	Other Non-Tubercular Diseases	T	...	...	0.1	...	...	...	...	...	0.2	0.2	0.3	...	...	...	
	O	0.1	0.6	0.2	0.2	0.6	0.2	0.6	0.8	1.2	0.6	0.5	0.6	0.5	...	...	
	{	Pul- monary.	Definite .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...
O			...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Suspected .....		T	...	...	...	...	...	...	...	...	...	0.2	0.3	...	...	...	
		O	...	...	...	...	...	...	...	...	...	0.2	0.3	...	...	0.6	
Non-Pulmonary.		Glands.....	T	0.1	...	0.1	0.1	...	...	...	0.4	...	0.2	0.2	0.3	0.5	...
		O	...	...	0.1	...	0.2	...	...	...	...	...	0.2	0.3	0.5	...	...
		Spine .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hip .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Bones and Joints	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
{	Skin .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	{	Epilepsy .....	T	...	0.1	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	0.2	0.3	...	0.2	0.4	...	...	...	...
Chorea.....		T	0.1	0.1	...	...	...	...	...	...	...	0.2	...	...	...	...	...
		O	...	...	0.1	0.1	...	0.2	...	...	...	...	...	...	...	...	...
{	Infantile Paralysis.....	T	...	...	...	0.1	...	...	...	...	...	...	...	...	...	...	
		O	...	...	0.2	0.1	...	...	...	...	...	...	...	...	...	...	...
	Rickets .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	0.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{	Spinal Curvature .....	T	0.2	0.2	0.1	...	0.1	...	...	...	...	0.2	0.3	...	...	...	
		O	0.4	0.4	0.2	0.6	0.2	0.6	1.0	0.4	0.7	1.0	0.2	0.3	...	...	...
	Other Forms .....	T	1.4	1.9	0.6	0.6	0.8	0.2	...	0.4	1.2	0.8	1.7	2.0	2.0	1.2	...
		O	7.3	5.8	5.3	4.4	3.3	1.1	3.5	1.1	1.2	1.2	0.9	1.1	2.0	...	...
{	Other Diseases or Defects .....	T	1.0	1.3	0.6	0.9	1.4	0.2	1.9	2.3	3.1	3.4	2.1	2.6	1.5	4.2	
		O	2.6	2.4	3.0	3.1	2.5	1.5	2.9	1.1	1.2	4.2	4.7	5.7	8.1	9.0	...

The following table gives a summary of the visual acuity, as determined by the Snellen Test Types, of all the pupils examined :—

SECONDARY SCHOOLS.

Boys.

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
8																	
9																	
10	937	83.4	82.7	6.4	7.9	3.5	2.7	2.7	2.0	1.5	1.7	0.9	0.9	0.9	1.6	0.7	0.5
11																	
12	1229	82.5	82.3	5.9	5.7	2.6	2.7	2.5	2.5	2.0	2.2	2.2	1.9	1.5	1.7	0.7	0.9
13	1235	81.9	79.8	6.2	7.0	2.3	3.4	2.4	2.6	2.8	2.1	1.7	2.3	1.1	1.6	1.5	1.2
14	1206	80.2	79.5	6.2	6.9	4.0	3.8	2.7	3.2	2.2	2.7	1.7	1.4	1.1	1.0	1.9	1.5
15	1075	79.0	77.9	7.6	7.3	3.2	3.8	2.5	3.3	2.4	2.6	2.8	2.5	1.4	1.7	1.1	0.9
16	530	76.6	77.4	7.0	7.4	4.0	2.6	3.4	4.5	2.6	2.3	2.8	1.9	2.6	2.0	0.9	1.9
17																	
18	312	73.1	70.5	6.7	6.4	4.2	5.4	4.5	3.8	4.5	4.8	2.9	4.8	2.2	1.3	1.9	2.9
19																	

Girls.

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
8																	
9																	
10	261	78.5	80.1	8.8	9.2	3.4	1.9	2.3	5.0	1.5	0.4	0.8	0.8	2.7	1.1	1.9	1.5
11																	
12	402	68.9	69.1	12.9	10.0	4.0	5.7	4.2	6.0	2.0	2.5	2.0	1.5	2.5	1.5	3.5	3.7
13	480	72.9	69.8	7.3	7.1	3.1	4.2	4.6	5.0	3.7	5.6	2.3	2.5	3.5	2.5	2.5	3.3
14	407	74.0	71.3	7.1	8.6	2.9	4.9	3.7	3.2	3.2	1.7	3.9	4.9	2.7	2.0	2.5	3.4
15	338	71.6	71.6	7.4	8.9	4.1	4.4	3.3	3.3	4.1	2.4	3.0	4.1	3.8	4.1	2.7	1.2
16	190	66.8	66.8	8.9	9.5	5.8	6.3	4.7	4.2	4.2	3.2	2.1	1.6	2.6	4.2	4.7	4.2
17																	
18	158	68.4	60.8	7.0	11.4	4.4	7.0	2.5	5.1	5.1	6.3	3.8	0.6	2.5	4.4	6.3	4.4
19																	

TECHNICAL AND CONTINUATION SCHOOLS.

The following table shows the results of the routine medical inspection of Technical and Continuation Schools —

Boys.

Girls.

		Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
No. Examined .....		...	19	128	149	127	82	14	...	1	5	160	132	...	...
Mental Condition.	Pupils having Defects.....	...	84.2	53.9	42.3	50.4	54.9	35.7	...	...	20.0	55.0	62.1	...	...
	Dull and Backward .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...
	Feeble-minded .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...
	Imbeciles .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...
	Idiots .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...
	Malnutrition .....	T	...	5.3	...	...	...	...	...	...	...	0.6	...	...	...
Uncleanliness.	Head .....	T	...	10.5	...	...	...	...	...	...	20.0	...	...	...	...
	Body .....	T	...	...	...	...	...	...	...	...	...	10.0	5.3	...	...

## Boys.

*Girls.*

			Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
Skin.	Ring-worm.	Head .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...
		Body .....	T	...	0.8	...	...	...	...	...	...	...	...	...	...	...
		Scabies .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...
	Impetigo .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other Diseases (Non-Tubercular) .....	O	...	5.3	1.6	0.7	0.8	4.7	...	...	...	...	0.6	...	...	...
	Defective Vision .....	SP	...	5.3	7.0	6.7	7.9	6.1	...	...	...	...	2.5	2.3	...	...
	Squint .....	T	...	5.3	...	0.7	1.6	...	...	...	...	...	10.0	9.8	...	...
Eye Diseases.	Conjunctivitis .....	O	...	5.3	1.6	0.7	0.8	1.2	...	...	...	...	1.9	1.5	...	...
	Blepharitis .....	T	...	...	...	0.7	0.8	6.1	...	...	...	...	...	0.8	...	...
	Keratitis .....	O	...	...	...	0.7	...	...	...	...	...	...	...	...	...	...
	Corneal Opacities .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Corneal Ulcer .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Defective Hearing.....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Otitis Media .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ear Diseases.	Other Ear Diseases .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enlarged Tonsils .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Adenoids.....	T	...	...	0.8	...	1.6	...	...	...	...	...	...	...	...	...
	Enlarged Tonsils and Adenoids..	O	...	...	9.4	4.7	4.7	4.7	...	...	...	...	...	...	...	...
	Enlarged Cervical Glands (Non-Tubercular) .....	T	...	...	0.8	...	...	...	...	...	...	...	...	...	...	...
	Defective Speech .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Four or more Carious .....	T	...	5.3	1.6	...	...	...	...	...	...	...	...	0.6	...	...
Nose and Throat.	Sepsis .....	O	...	26.3	7.8	16.1	11.8	7.3	7.1	...	...	...	...	17.5	22.7	...
	Organic .....	T	...	...	...	1.3	...	...	...	...	...	...	...	0.8	...	...
	Functional .....	O	...	5.3	...	...	...	2.4	...	...	...	...	...	1.2	1.5	...
	Anæmia .....	T	...	...	...	...	...	...	...	...	...	...	...	0.8	...	...
	Bronchitis .....	O	...	...	...	1.6	0.7	0.8	...	...	...	...	...	...	...	...
	Other Non-Tubercular Diseases..	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Definite .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Heart and Circulation.	Suspected .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Glands.....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Spine .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Hip .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other Bones and Joints .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Skin .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Definite .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lungs.	Suspected .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Glands.....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Spine .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Hip .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other Bones and Joints .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Skin .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Definite .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis.	Suspected .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Glands.....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Spine .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Hip .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other Bones and Joints .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Skin .....	O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Definite .....	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...





## TREATMENT.

In the vast majority of cases treatment is obtained privately, but the facilities which are available for the children attending the Elementary Schools are actually available for Secondary School pupils whose parents are not in a position to obtain the necessary treatment elsewhere. For necessitous non-residents in the County a note from the Medical Inspector or Head Master to the local Medical Officer of Health procures a ready response. The help of Head Teachers has been greatly appreciated in this direction.

The following tables show in summary form the amount, kind, and results of the treatment obtained during the year.

The first set of tables gives this information in regard to those pupils who were examined at the previous medical inspection ("new cases") :—

## SECONDARY SCHOOLS.

## TREATMENT OF DEFECTS.

## NEW CASES.

*Boys.*

DISEASE OR DEFECT.	NUMBER OF PUPILS.								
	Re-ferred for Treat-ment.	Treated.			Result.			Un-treated.	No Infor-mation.
		Under Autho- rity's Scheme.	Other- wise.	Total.	Cured.	Im- proved.	Un- changed		
1	2	3	4	5	6	7	8	9	
Minor Ailments (Skin)—									
Ringworm—Scalp ...	3	...	3	3	3	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...	...
Scabies ...	...	...	...	...	...	...	...	...	...
Impetigo ...	4	...	4	4	4	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...	...
Other Skin Disease ...	24	...	21	21	13	7	1	...	3
Ear Disease ...	30	4	22	26	11	13	2	...	4
Eye Disease (external and other)	22	1	17	18	14	2	2	...	4
Dental Disease ...	555	42	290	332	233	72	27	...	223
Other Diseases ...	157	27	115	142	56	70	16	...	15

*Girls.*

DISEASE OR DEFECT.	NUMBER OF PUPILS.								
	Referred for Treat- ment.	Treated.			Result.			Un- treated.	No Infor- mation.
		Under Autho- rity's Scheme.	Other- wise.	Total.	Cured.	Im- proved.	Un- changed		
1	2	3	4	5	6	7	8	9	
Minor Ailments (Skin)—									
Ringworm—Scalp ...	...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...	...
Scabies ...	...	...	...	...	...	...	...	...	...
Impetigo ...	...	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...	...
Other Skin Disease ...	11	...	9	9	5	4	...	...	2
Ear Disease ...	28	...	21	21	7	10	4	...	7
Eye Disease (external and other)	6	...	6	6	4	1	1	...	...
Dental Disease ...	253	5	150	155	52	96	7	...	98
Other Diseases ...	98	4	71	75	26	43	6	...	23

TREATMENT OF VISUAL DEFECT.

NUMBER OF PUPILS.													
	Referred for Refraction.	Submitted to Refraction.				For whom Glasses were Prescribed.		For whom Glasses were Obtained.		Recommended for Treatment other than by Glasses.	Received other forms of Treatment.	For whom no Treatment was considered necessary.	No Information.
		Under Authority's Scheme—Clinic, or Hospital.	By Private Practitioner or Hospital.	Other-wise.	Total.	Under Authority's Scheme.	Other-wise.	Under Authority's Scheme.	Other-wise.				
Boys	358	90	123	65	278	85	184	73	169	5	3	4	80
Girls	240	56	80	34	170	40	83	32	49	26	14	21	70

TREATMENT OF DEFECTS OF NOSE AND THROAT.

NUMBER OF PUPILS.						
	Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
Boys	83	14	25	39	16	28
Girls	89	7	21	28	35	26

TECHNICAL AND CONTINUATION SCHOOLS.

TREATMENT OF DEFECTS.

NEW CASES.

Boys.

DISEASE OR DEFECT.		NUMBER OF PUPILS.							
		Referred for Treatment.	Treated.			Result.			No Information.
			Under Authority's Scheme.	Other-wise.	Total.	Cured.	Im-proved.	Un-changed	
		1	2	3	4	5	6	7	8
Minor Ailments (Skin)—									
Ringworm—Scalp	...	...	...	...	...	...	...	...	...
Ringworm—Body	...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...	...
Minor Injuries	...	...	...	...	...	...	...	...	...
Other Skin Disease	...	...	...	...	...	...	...	...	...
Ear Disease	... ..	5	...	1	1	...	1	...	4
Eye Disease (external and other)		3	...	2	2	1	1	...	1
Dental Disease	... ..	45	...	10	10	9	1	...	35
Other Diseases	... ..	15	1	4	5	1	...	4	10



*Girls.*

DISEASE OR DEFECT.	NUMBER OF PUPILS.							
	Referred for Treatment.	Treated.			Result.			No Information.
		Under Authority's Scheme	Other-wise.	Total.	Cured.	Improved.	Un-changed	
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Scalp ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies ...	...	...	...	...	...	...	...	...
Impetigo ...	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	3	...	3	3	2	1	...	...
Ear Disease ...	...	...	...	...	...	...	...	...
Eye Disease (external and other)	1	...	1	1	1	...	...	...
Dental Disease ...	39	4	14	18	3	14	1	21
Other Diseases ...	16	...	9	9	...	8	1	7

## TREATMENT OF VISUAL DEFECT.

	NUMBER OF PUPILS.												
	Referred for Refraction.	Submitted to Refraction.				For whom Glasses were Pre- scribed.		For whom Glasses were Obtained.		Recom- mended for Treat- ment other than by Glasses.	Received other forms of Treat- ment.	For whom no Treat- ment was considered necessary.	No Informa- tion.
		Under Authority's Scheme— Clinic or Hospital.	By Private Prac- titioner or Hospital.	Other- wise.	Total.	Under Author- ity's Scheme.	Other- wise.	Under Author- ity's Scheme.	Other- wise.				
Boys	17	7	1	2	10	7	3	7	3	...	...	...	7
Girls	8	4	...	1	5	4	1	4	1	...	...	...	3

## TREATMENT OF DEFECTS OF NOSE AND THROAT.

	NUMBER OF PUPILS.					
	Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
Boys	6	...	1	1	...	5
Girls	12	1	...	1	8	3

The following set of tables gives similar information in regard to those pupils who were recommended to obtain treatment at some inspection prior to the last ("old cases") :—

## SECONDARY SCHOOLS.

## TREATMENT OF DEFECTS.

## OLD CASES.

*Boys.*

DISEASE OR DEFECT.	NUMBER OF PUPILS.							
	Re-ferred for Treat-ment.	Treated.			Result.			No infor- mation.
		Under Autho- rity's Scheme.	Other- wise.	Total.	Cured.	Im- proved.	Un- changed	
1	2	3	4	5	6	7	8	
Minor Ailments (Skin)—								
Ringworm—Scalp ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies ...	...	...	...	...	...	...	...	...
Impetigo ...	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	13	1	6	7	4	2	1	6
Ear Disease ...	16	3	11	14	1	12	1	2
Eye Disease (external and other)	4	1	3	4	2	1	1	...
Dental Disease ...	73	...	32	32	16	16	...	41
Other Diseases ...	26	2	13	15	5	10	...	11

*Girls.*

DISEASE OR DEFECT.	NUMBER OF PUPILS.							
	Re-ferred for Treat-ment.	Treated.			Result.			No Infor- mation.
		Under Autho- rity's Scheme.	Other- wise.	Total.	Cured.	Im- proved.	Un- changed	
1	2	3	4	5	6	7	8	
Minor Ailments (Skin)—								
Ringworm—Scalp ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies ...	...	...	...	...	...	...	...	...
Impetigo ...	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	1	...	1	1	1	...	...	...
Ear Disease ...	3	...	3	3	...	2	1	...
Eye Disease (external and other)	...	...	...	...	...	...	...	...
Dental Disease ...	67	2	31	33	9	21	3	34
Other Diseases ...	5	...	4	4	1	2	1	1

## TREATMENT OF VISUAL DEFECTS.

	NUMBER OF PUPILS.												
	Referred for Refraction.	Submitted to Refraction.				For whom Glasses were Pre-scribed.		For whom Glasses were Obtained.		Recom-mended for Treat-ment other than by Glasses.	Received other forms of Treat-ment.	For whom no Treat-ment was considered necessary.	No Informa-tion.
		Under Author-ity's Scheme—Clinic or Hospital.	By Private Prac-titioner or Hospital.	Other-wise.	Total.	Under Author-ity's Scheme.	Other-wise.	Under Author-ity's Scheme.	Other-wise.				
Boys	45	9	15	12	36	8	18	7	17	5	...	5	9
Girls	23	7	4	6	17	7	8	7	8	2	...	...	6

## TREATMENT OF DEFECTS OF NOSE AND THROAT.

	NUMBER OF PUPILS.					
	Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
Boys	28	...	2	2	6	20
Girls	35	5	8	13	4	18

## TECHNICAL AND CONTINUATION SCHOOLS.

## TREATMENT OF DEFECTS.

## OLD CASES.

*Boys.*

[illegible]



*Girls.*

DISEASE OR DEFECT.	NUMBER OF PUPILS.							
	Re-ferred for Treat-ment.	Treated.			Result.			No Infor-mation.
		Under Autho-ri-ty's Scheme.	Other-wise.	Total.	Cured.	Im-proved.	Un-changed	
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Scalp ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies ...	...	...	...	...	...	...	...	...
Impetigo ...	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	...	...	...	...	...	...	...	...
Ear Disease ...	2	...	2	2	1	...	1	...
Eye Disease (external and other)	...	...	...	...	...	...	...	...
Dental Disease ...	3	1	...	1	1	...	...	2
Other Diseases ...	...	...	...	...	...	...	...	...

## TREATMENT OF VISUAL DEFECT.

NUMBER OF PUPILS.													
Referred for Refraction.	Submitted to Refraction.				For whom Glasses were Prescribed.		For whom Glasses were Obtained.		Recommended for Treatment other than by Glasses.	Received other forms of Treatment.	For whom no Treatment was considered necessary.	No Information.	
	Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Other-wise.	Total.	Under Authority's Scheme.	Other-wise.	Under Authority's Scheme.	Other-wise.					
Boys	1	...	...	...	...	...	...	...	...	...	...	1	
Girls	3	...	...	...	...	...	...	...	...	...	...	3	

## TREATMENT OF DEFECTS OF NOSE AND THROAT.

	NUMBER OF PUPILS.					
	Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
Boys	1	...	...	...	...	1
Girls	4	1	...	1	...	3

### MISCELLANEOUS.

Special attention is directed to the examination of Bursars in Secondary Schools. During the past year 230 Bursars were examined, and, in addition, 288 candidates for Bursaries were examined.

A number of lectures, in many cases arranged in conjunction with Miss Tipper, the organising lecturer employed by the Public Health Department, have been given to parents, mothers, members of Women's Institutes, Mothers' Unions, &c., during the year.

Lectures, illustrated by suitable films and lantern slides, have been given by members of the School Medical and Dental Staff, and Miss Tipper, to large numbers of children on such subjects as Personal Hygiene, Cleanliness, Care of the Teeth, &c., in many of the districts.

Various courses of lectures to Midwives have been given by members of the Medical Staff.

During the past five years a series of lectures on professional and technical subjects relating to their work have been delivered to the Nursing Staff by the Medical Staff. Attendance at these lectures, which are held once a month, is compulsory. The subjects dealt with have been :—

Legal Enactments dealing with Maternity and Child						
Welfare and School Medical work	...	...	...	...	...	Dr. Ferguson.
Vital Statistics	...	...	...	...	...	Dr. Scholefield.
Ante-Natal Hygiene	...	...	...	...	...	Dr. Hall.
Ophthalmia Neonatorum and other Eye Complaints of						
Infancy	...	...	...	...	...	Dr. Wray.
Hygiene of Infancy and Childhood	...	...	...	...	...	Dr. Wray.
Clothing of Infants and Children	...	...	...	...	...	Dr. Corbett.
Orthopædics	...	...	...	...	...	Dr. Tomb.
Infant Feeding	...	...	...	...	...	Dr. Wright.
Milk	...	...	...	...	...	Dr. Wright.
Epidemiology and some Infectious Diseases					...	Dr. Wright.
The Delicate Child					...	Dr. Porter.
Maternal Mortality and Puerperal Infection...					...	Dr. Fisher.
The Teeth					...	Dr. Kershaw.
Graded Milk					...	Mr. Eginton
						(Chief County Sanitary Officer).
Housing					...	Mr. Mason
						(County Sanitary Officer).
Air and Environment					...	Mr. R. Keeley
						(County Sanitary Officer).
The Development of the Human Fœtus					...	Dr. Topping.
Menstrual and Uterine Conditions at Puberty, Maturity					...	Dr. Topping.
and Menopause					...	Dr. Topping.

### COALFIELDS DISTRESS FUNDS.—CAMPS FOR SCHOOL CHILDREN.

The Director of Education presented the following Report :—

On the 10th July last, the Organising Secretary of the Lancashire Divisional Committee of the Coalfields Distress Funds informed the Director of Education that the Authorities of the Fund had decided to extend the scope of the Fund in the Lancashire Coalfield to include the establishment of a school camp for distressed miners' children, and for this purpose an arrangement had been made with the Holiday Fellowship for the use of a camp situate at Conway. The camp has been organised in weekly sessions, and the selected children from the County Area were allocated the weeks September 14th to 21st and September 21st to 28th. A teacher was to be in charge of each group of 15 or more children. Consequently the Director of Education communicated with the Local Clerks of the Areas concerned, and arrangements have now been completed for the sending of 196 boys and 130 girls, accompanied by 13 men and eight women teachers, to the camp. Arrangements have also been made for an additional 23 boys and 23 girls from Aspull and Abram, together with one man and one woman teacher, to attend the school camp at Birkdale, together with children from the Wigan Education Authority. The curriculum of the school camps and the arrangements as to attendance and registration are subject

to the approval of H.M. Inspector, and as the Board of Education regard the attendances as complying with the Regulations of the Board, the attendances will be registered and recorded as attendances at the Public Elementary Schools from which the children are drawn. All expenses incurred in connection with these arrangements will be met by the Camp Funds, and no additional expense will fall on the Education Committee.

The School Medical Department have arranged for the medical inspection of all the children by their School Medical Officers, and have kindly arranged for one of their nurses to attend the camp during the whole period.

### SPECIAL INQUIRIES.

Dr. L. E. H. R. Barker and Dr. W. M. McAsh have collaborated in writing the following report on the—

#### RELATIONSHIP BETWEEN ENLARGED TONSILS, ADENOIDS, ORAL SEPSIS AND RICKETS.

During the years 1929-30 an attempt was made to investigate the relationship between Faucial Lymphoid Hyperthrophy, Oral Sepsis and Rickets. For this purpose two schools were selected, which together yielded a number of children of average social condition for Elementary Schools. The children, aged 4 to 7, who were attending the Infant Departments in these two schools were subjected to separate dental and medical examination held within a few days of one another.

During the medical examination a record was made of those children who were regarded as presenting signs of past rickets. No child was regarded as having had rickets whose osseous system did not show quite definite evidence of characteristic malformation. The signs which were taken as criteria were as follows :—

Bow legs, knock knees, beading of ribs, enlargement of radial epiphyses, bossing of parietal bones, bossing of frontal bone.

As a rule the presence of not less than three of these signs was taken as evidence of old rickets, but in a few cases the presence of two of the above signs accompanied by the characteristic laxity of the ligaments round such joints as the elbows and knees was accounted sufficient to determine the diagnosis. In many investigations already undertaken on the subject of rickets it is noticeable that there is a great disagreement in the percentage number of cases found by the different observers (some finding over 80 per cent. and some less than 70 per cent.). This divergence of opinion is due to the different standards of criteria upon which the diagnosis of rickets is based. In some instances, signs taken as diagnostic of rickets might equally well have been regarded as common to other diseases of nutrition. In other cases, perhaps a too severe standard was set. An attempt was made to steer as fair a course as possible. By making the above standard it was hoped to keep free from the Scylla of diagnosis upon too slender grounds, while at the same time avoiding the Charybdis of neglecting to give proper weight to the combination of signs found.

The object in view was to discover what relationship, if any, existed between the disease known as rickets, dental caries and hypertrophy of the lymphatic tissue of the fauces.

It was realised that there are other signs of defective metabolism which are sometimes regarded as being rachitic and which might be correlated more closely with dental disease or with enlarged tonsils and/or adenoids.

A further study was made of the throat conditions found in rachitic and non-rachitic respectively and of the association of the throat conditions with dental caries.

Four hundred and thirty-three children were inspected, their ages ranging from 4 to 7 years. Of this number, 387 had one or more carious teeth, 46 had clean mouths, and no carious teeth. Among the children who had carious teeth it was found that 89 had enlarged tonsils and/or adenoids, while among those with clean mouths 13 had throat disease.

On turning to the records of rachitic cases it was seen that among the 89 cases of enlarged tonsils and/or adenoids 15 had rickets. There were 18 further cases of rickets among those who had carious teeth, but no faucial disease. There were no cases of rickets among the children who had no carious teeth.



- If (A) = those having carious teeth,  
 (a) = those having no carious teeth,  
 (B) = those having enlarged tonsils or adenoids,  
 (β) = those having no enlarged tonsils or adenoids,  
 (C) = number of cases of gross rickets,  
 (γ) = number of cases with no rickets,

the following table can be made out :—

433	(A)	(B)	(C)
			15
		89	( $\gamma$ ) 74
		( $\beta$ )	(C) 18
	387	298	( $\gamma$ ) 280
	(a)	(B)	(C)
			0
		13	( $\gamma$ ) 13
		(β)	(C)
			0
46		33	( $\gamma$ ) 33
Totals =	433	433	433

If (A) and (B) are independent, then the number of AB's would be 91, namely—

$$\frac{387 \times 102}{433}$$

The actual number is 89, and this is near enough to 91 to warrant us in asserting that there is no association between carious teeth and enlarged tonsils and adenoids.

On the figures available there seems to be a positive association between rickets and carious teeth, for there are 33 cases out of the 387 amongst the carious group and no cases out of the 46 in the non-carious group.

There also seems to be a positive association between the enlarged tonsils and rickets in the group of carious teeth. Fifteen out of 89 of the tonsillar enlargements are rickety, whereas only 18 out of the 298 of the non-tonsillar enlargements have rickets. The numbers, however, in the rickety groups are so small that it is questionable whether much reliance should be placed on these results.

With a view to ascertaining what effects on the throat conditions were produced by dental treatment it was decided to treat a number of children dentally and to leave the remainder untreated to act as controls. To this end, 132 of the children under observation received dental treatment.

At the first inspection in August and September, 1929, the medical and dental conditions of the whole 433 children were found to be as set forth numerically in the following table :—

- If (A) = Children for treatment.  
 (a) = Controls, *i.e.*, children purposely left untreated.  
 (B) = Children with 4 or more carious teeth.  
 (β) = Children with less than 4 carious teeth.  
 (C) = Children with enlarged tonsils and/or adenoids.  
 (γ) = Children with no enlarged tonsils or adenoids.  
 (D) = Children shewing signs of gross rickets.  
 (δ) = Children shewing no signs of rickets.

433	(A)	(B)	(C)	(D)
				3
			11	(S)
				8
			( $\gamma$ )	(D)
				1
		58	47	(S)
			46	
		(\beta)	(C)	(D)
				1
			10	(S)
				9
	( $\gamma$ )		(D)	
			0	
	132	74	64	(S)
		64		
	(a)	(B)	(C)	(D)
				7
			48	(S)
			41	
( $\gamma$ )			(D)	
			9	
117		69	(S)	
		60		
(\beta)		(C)	(D)	
			5	
		33	(S)	
			28	
	( $\gamma$ )	(D)		
		7		
301	184	151	(S)	
	144			
Totals	433	433	433	433

The 132 children were subjected to dental treatment as soon as possible after the first inspection. After an interval of six months a second medical inspection was made.

Dealing first with those who received dental treatment; of the 21 children who had been found to have enlarged tonsils and/or adenoids 16 were unchanged and 5 had improved. But it was found that 13 of the treated children who had healthy throats on the first inspection had developed enlarged tonsils and/or adenoids between the two inspections. Of the 81 controls, who had enlarged tonsils and/or adenoids at the first inspection, 76 were unchanged and 5 had improved. But 25 more of these control children had developed enlarged tonsils and/or adenoids in the meantime. It may be deduced from the above figures that the development of fresh cases of enlarged tonsils and/or adenoids is nearly equal in the two groups of treated and untreated children respectively, and further, it appears that there is little association between the effects of dental treatment and the incidence of throat disease.

The final throat condition of these 433 children is set forth in tabular form as follows :—

If (A) = Treated children.

(a) = Untreated children.

(B) = Children with enlarged tonsils and/or adenoids.

(β) = Children with healthy throats.

433	(A)	(B)
		34
		(β)
	132	98
Totals	(a)	(B)
		106
		(β)
	301	195
	433	433

#### MOUTH BREATHING.

A total of 30 children was found who exhibited mouth breathing. In most cases this was due to adenoids, with or without associated enlargement of the tonsils. Of that number, 19, *i.e.*, 56 per cent. were found to have dental disease, 14 of them in a gross form.

The presence of mouth breathing is of special importance in regard to oral disease, in view of the many harmful conditions to which it gives rise. The secretions of the mouth are affected by the more rapid evaporation of the water content, and a resulting concentration of the solid matter in solution, leading to the rapid deposition of tartar and a diminution in or absence of the normal cleansing action of the saliva.

A catarrhal condition of the margins of the gums is frequently found associated with mouth breathing, which, if untreated, is a forerunner of chronic general periodontitis or pyorrhœa alveolaris. The teeth themselves are more prone to caries, which is usually of a rapidly spreading type.

The connection between the presence of adenoids and maldevelopment of the jaws with resulting irregularity of the teeth is well established. Crowding of the teeth is in itself a potent factor in the production of caries and disease of the soft tissues of the mouth, so that the presence of adenoids is directly and indirectly responsible for many cases of oral and dental disease and disability.

#### GENERAL CONCLUSIONS.

(1) So far as our investigations have proceeded it would appear that dental treatment has little effect on *established* throat or post nasal conditions.

(2) The presence of enlarged tonsils alone with nasal breathing appears to have little or no effect on dental conditions, but when the tonsillar enlargement is associated with the presence of adenoids and mouth breathing a condition of oral malhygiene is speedily set up; if the mouth breathing is allowed to continue in young children, deformities of the jaws and teeth follow. An increased liability to catarrhal conditions of the lymphatic tissue of the throat and nose is then established with a consequent increase in the severity of the primary state. In this way a vicious circle is set up, the original adenoid growth leading to disease of the oral mucosa and tonsils, whilst this impairment in turn reacts unfavourably on the post-nasal condition.

(3) There would seem to be a possibility in many cases that the primary growth of adenoids may be responsible for both oral malhygiene and disease and tonsillar inflammation and enlargement, both from a mechanical and pathological point of view.

(4) Though rickets in itself may not be a direct factor in the causation of dental disease, it appears that there is a tendency for oral sepsis to be present in severer degree in rachitic than in non-rachitic children.



## POST OPERATIVE CONDITIONS OF TONSILS AND ADENOIDS.

Dr. G. H. Hutchinson reviews the condition of 152 children who have had tonsils and adenoids removed at least twelve months ago, and writes as follows :—

The children were quite unselected, of various ages and of both sexes, the operation being undertaken for a wide variety of symptoms, some of which were of long duration.

The operation was carried out in some cases privately, in other cases at Hospitals, but not always under the County Council's scheme.

The cases include children suffering from septic conditions of the throat, deafness, middle ear disease, chronic nasal catarrh, adenitis and systemic disease. Considering the duration and serious nature of many of these symptoms it is not surprising that the results of the operation are not always completely satisfactory. Even so, from the number reviewed it may be inferred that complete failure to produce an improvement in the child's health is comparatively rare.

The review raises many questions which are of great importance with regard to the health of the child, and of much interest to the School Medical Officer. It is undoubtedly the fact that unhealthy states of the nose and throat are the starting points of much serious disease among children. It is only necessary to call to mind the frequency with which a history of pneumonia and bronchitis in early childhood is obtained to feel convinced that in these northern areas hyperplasias and infections of the upper respiratory passages are the most fruitful cause of systemic disease, quite apart from the more local affections which arise from obstruction to the passages and from infection of the ears, sinuses and lymphatic glands.

This preliminary investigation shows that although the ætiology of these unhealthy conditions is to some extent obscure, particularly of the hyperplasias, yet it is of value to review from time to time the results of operative treatment, and it is by no means improbable that a thorough and comprehensive investigation of the improvements, which in the majority of cases follow upon operations, would not throw considerable light upon obscure ætiological factors.

Many questions may be asked, and in spite of the large amount of research which has been carried out, many answers are still required. In what type of case, the hyperplastic or the septic, is bronchitis most frequent ?

A child who has suffered from frequent attacks of bronchitis frequently makes a dramatic recovery after operation, others do not. Both classes require a detailed thorough examination, particularly, one may suggest, with regard to the presence or absence of sinus infection.

It may be granted that for the School Medical Officer with somewhat limited facilities, the answers to such questions are often a matter of great difficulty, but of their fundamental importance there can be no doubt.

This short review and the table appended emphasise the need for careful classification of the various types of nose and throat affections, together with their histories and complications, before one can express an opinion upon the probable results of operative measures, or help to throw more light upon the underlying ætiological factors.

Defect.						Percentage cured.
Glands ... ..	...	...	...	...	...	65
Nasal Catarrh ... ..	...	...	...	...	...	66
Sore Throats ... ..	...	...	...	...	...	78
Mouth Breathing ... ..	...	...	...	...	...	76
Deafness ... ..	...	...	...	...	...	52
Otorrhœa ... ..	...	...	...	...	...	64
Respiratory Diseases ... ..	...	...	...	...	...	70
Systemic Diseases ... ..	...	...	...	...	...	70

The table shows that the operation is a "good" operation, and that, with very rare exceptions, it is followed by a marked improvement in one or more of the states of ill-health for which it has been undertaken.

Dr. C. L. Corbett contributes a paper on the Disabilities in School Children due to Heart Abnormalities.

### DISABILITIES IN SCHOOL CHILDREN DUE TO HEART ABNORMALITIES.

Three hundred and thirty-seven children born in 1916 and examined in 1922 have been under supervision since then twice a year :—

(a) Chests were sounded either once or twice a year of children who had any abnormality of the heart sounds at a previous inspection ;

(b) All children who had been absent from school for a period of two weeks or more since previous inspection were sounded if they had had any illness which suggested heart involvement ;

(c) Children were examined who were referred for inspection by parents or teachers ;

(d) The remaining children were passed under rapid review once a year and each child's medical record noted.

In 64 children (19 per cent.), 34 girls and 30 boys, one or more abnormalities of the heart were noted at some time during the seven years. The most common abnormality was a systolic murmur. In some cases there was a slight impurity of the first sound which hardly amounted to a murmur. Often this occurred when the heart sounds were in process of clearing and were forced at the next inspection to be clear.

The following abnormalities were noted :—

			Boys.		Girls.
Systolic murmur	...	...	21	...	26
First sound impure	...	...	12	...	8
Diastolic	...	...	0	...	3
Irregular	...	...	1	...	3
Tachycardia	...	...	0	...	2
Dilatation	...	...	1	...	1
Cyanosis	...	...	0	...	1
Heart sounds soft	...	...	1	...	0
			36		44

Forty-four children, 18 boys and 26 girls, continued full exercise during their school career. This generally comprised drill and games for all, swimming in the summer for older boys and girls, dancing for girls and gardening for boys. In none of these cases were any ill effects traced to the amount of exercise taken. The children thoroughly enjoyed the drill and games, and would not own to any weariness nor headaches, nor did the teachers or parents find any symptoms of over-exertion.

The following were the abnormalities noted in these cases :—

			Boys.		Girls.
Systolic murmur	...	...	12	...	21
First sound impure	...	...	9	...	6
Diastolic	...	...	0	...	1
Irregular	...	...	0	...	2
Tachycardia	...	...	0	...	2
Dilatation	...	...	0	...	0
Cyanosis	...	...	0	...	0
Heart sounds soft	...	...	0	...	0

The girl in this group who had a diastolic murmur was one whose murmur developed at the end of her school career, and was in a school where little exercise is taken.

The following is the duration of the heart abnormalities in this group :—

The following is the duration of the heart abnormalities in this group.										
			7 years.		3-7 years.		1-3 years.		Only once noted.	
Boys	{	Now clear ...	...	0	...	3	...	5	...	3
		Still continuing ...	...	1	...	2	...	1	...	3
Girls	{	Now clear ...	...	0	...	3	...	4	...	3
		Still continuing ...	...	4	...	4	...	2	...	6

Twenty children, 12 boys and 8 girls, did not take full school exercise.

The following were the abnormalities found in this group :—

				Boys.		Girls.
Systolic murmur	...	...	...	10	...	5
First sound impure	...	...	...	3	...	2
Diastolic	...	...	...	0	...	2
Irregular	...	...	...	1	...	0
Tachycardia	...	...	...	0	...	0
Dilatation	...	...	...	1	...	1
Cyanosis	...	...	...	0	...	1
Heart sounds soft	...	...	...	0	...	0

The following was the duration of the abnormalities :—

			7 years.	3-7 years.		1-3 years.		Only once noted.		
Boys	{	Now clear ...	...	0	...	3	...	2	...	0
		Still continuing	...	1	...	3	...	1	...	2
Girls	{	Now clear ...	...	0	...	0	...	0	...	1
		Still continuing	...	2	...	2	...	0	...	3

Five children in this group were not prevented from taking full exercise by their heart abnormality. They did not take swimming because :—

- 1 boy's mother was afraid of his catching cold (Systolic, 1926 ; clear, 1929)
- 1 boy had severe seborrhoea of hands (first impure once in 1922).
- 1 boy had a hernia (Systolic, 1929 ; still continuing)
- 1 boy suffered from sickness at the baths and had bad sight (slight irregularity heart, 1927 ; clear, 1928).
- 1 girl's mother was nervous (first impure once, 1923).

The remaining 15 were given only part or none of the school exercise on account of the condition of the heart.

Seven of these, 2 boys and 5 girls, were absent from school or attended half-time for periods of over a month. In two cases this absence was principally due to other causes than the heart trouble, one girl to long continued eye-ulcers (heart first impure once, 1929) ; one boy to tuberculosis of the glands (Systolic, 1926, still continuing). Two girls had definite attacks of rheumatic fever and were away 5 weeks (Systolic, 1929, still continuing), and 14 weeks (Systolic, 1929, still continuing), respectively. Both on return resumed regular attendance with full drill and games, but not swimming. Two girls attended only half-time or irregularly over long periods, but had no history of rheumatic attack or other acute illness (Presystolic, 1922-9, still continuing ; Systolic, 1922-1926). One boy, whose heart had been clear at previous inspections, and who had not been absent from school for two weeks, when sounded at 12 years for his routine examination was found to be suffering from valvular disease. The mother was sent for and questioned, and it appeared that there had been an attack of influenza for which a doctor was not consulted, but for which the boy was kept in bed for a week. It is probable that this attack was the cause of the valvular disease. The boy became seriously ill and has now been absent from school under medical treatment for over a year. This was the only instance among this particular set of children of an occurrence of which several cases have come under my notice in the course of medical inspection. A child whose heart has been perfectly clear at previous inspections is found to be suffering from unsuspected valvular disease, the cause of which can often be traced to an attack of "growing pains" or influenza, for which adequate medical care had not been obtained.

One mother, whose son was afterwards under long treatment for heart trouble, was so sure of the triviality of his "growing pains" that she complained bitterly of having been sent for by the medical inspector when there was nothing important the matter.

In cases of valvular disease of the heart I find that the tendency with parents is not to carry out thoroughly enough the complete rest required during the acute attack, but to be afraid of all exercise during the more chronic stage when graduated exercises are of great value. Great difficulty is often experienced by the private



practitioner in keeping the rheumatic child in bed after he or she feels inclined to get up. No doubt the dangers have to be put very vividly before parents at this stage to ensure sufficient rest. Those children do much better who can secure a long period in bed during the acute attack. When, however, the child is back at school again, regular exercises should in most cases be gradually introduced. With proper care this is not only without danger to the child but of very great value both to strengthen the heart and build up the general health. In forming an opinion upon how much drill to prescribe, the general health and development of the child must be taken into consideration as well as the condition of the heart, and also the amount of walking to and from school. In nearly all cases part drill can be taken, arm and leg exercises without running and jumping. One of these children whose mother objected to all exercises for her and who was therefore allowed to miss all drill throughout her school life would, in my opinion, have greatly benefited by regular part drill. When compared with her school-fellows, her stooping shoulders, flat chest, thin, flabby limbs and poor muscular tone, show how much she has lost by being deprived of regular muscular training. Many children with valvular disease can take with perfect safety the full ordinary drill, games, dancing and gardening. Competitive games must be introduced with caution, especially for the ambitious and strenuous child. Swimming is generally not advised, as the exercise is too violent for most of these cases.

Dr. J. H. Porter contributes a paper on Classification according to Scapular Types.

#### A NOTE ON CLASSIFICATION ACCORDING TO SCAPULAR TYPES.

Classification according to scapular types was initiated by W. W. Graves, of St. Louis, who, in 1906, during a routine examination of a family was impressed by the fact that these members of the family whose scapulae had convex vertebral borders possessed good physique, while those members whose scapulae had concave vertebral borders possessed poor physique.

The classification is based "primarily on the relation of the greater portion of the vertebral border below the scapular spine to a straight line." There are also a large number of secondary variations which, according to Graves, are frequently common to the concave and straight types, but which contrast with similar features in the convex type. He therefore considers the straight and concave together as Scaphoid Types.

The following are the chief conclusions which Graves has reached as a result of the examination and classification of many scapulae, both skeletal and in the living subject, all over the world. :—

- 1.—The type of scapulae is transmitted hereditarily.
- 2.—The type is fixed as early as the 10th or 12th foetal week.
- 3.—No particular muscle attachment or bloodvessel variation is found associated exclusively with any particular scapular type.
- 4.—It is among those individuals disclosing innate defectiveness in physical and mental adaptations that the scaphoid types are most frequently found.

Attention was drawn to the subject by an investigation of Dr. Hogarth for the Ministry on the subject of the Pre-school Child. The children examined were classified according to scapular types with the following results :—

		Nos.		%	
		Boys.	Girls.	Boys.	Girls.
Convex ...	...	376	320	76·4	66·4
Straight ...	...	65	83	13·3	17·2
Concave ...	...	51	79	10·3	16·4

On the state of the Public Health, 1926. p. 162.

On examination of scapulae at routine examinations it soon became apparent that the scaphoid types were by far the commonest. In view of Grave's conclusions (quoted in the Chief Medical Officer's Report) that such types are more common in individuals showing innate defectiveness in physical and mental adaptations, it is thought desirable :—

- (a) To determine the relative frequency of these types amongst school children.
- (b) If possible, to show whether physical defects were more common amongst those possessing scaphoid scapulae.

In all, 1,617 elementary school children and 104 secondary school boys have been classified according to scapular types.

The elementary school children were comprised of the following age groups :—

Entrants.		8's.		12's.	
Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
244	256	304	298	256	259

The secondary school boys were aged 11 to 17 years.

A.—Frequency of types amongst school children of South East Lancashire Urban Areas compared with other investigations.

Total placement according to scapular types by sex of elementary school children :—

Types.	Boys.		Girls.		Total.	
	No.	%	No.	%	No.	%
Cv.	70	8.7	33	4.1	103	6.5
St.	390	48.5	328	40.0	718	44.5
Cc.	344	42.8	452	55.9	796	49.0

Total placement according to scapular types of secondary school boys (ages 11–17 years) :—

Types.	No.	%
Cv.	4	3.8
St.	42	40.4
Cc.	58	55.8

Dr. Hogarth's tables :—

Types.	Nos.		%	
	Boys.	Girls.	Boys.	Girls.
Cv.	376	320	76.4	66.4
St.	65	83	13.3	17.2
Cc.	51	79	10.3	16.4

Also Graves' (3 months—6 years) :—

Cv.	...	18 per cent.
St.	...	56 per cent.
Cc.	...	26 per cent.

The age periods are not strictly comparable, but even so there are very considerable differences in the observations. The most important feature is that in the children under review the scaphoid types are found in an extremely high percentage of cases. Further, this high percentage of scapulae of the scaphoid type is as marked in a group of secondary school boys of higher average age as it is in the younger elementary school children.

*Age incidence in elementary school children :—*

Numerical placement according to scapular types by age group and sex :—

Types.	Boys.						Girls.					
	Nos.			%			Nos.			%		
	E's	8's	12's	E's	8's	12's	E's	8's	12's	E's	8's	12's
Cv.	31	18	21	12.6	5.9	8.2	19	9	5	7.4	3.0	1.9
St.	136	148	106	56.0	48.6	41.5	116	136	76	45.3	45.8	29.5
Cc.	77	138	129	31.4	45.5	50.3	121	153	178	47.3	51.2	68.6

TOTALS.

Types.	Nos.			%		
	E's	8's	12's	E's	8's	12's
Cv.	50	27	26	10	4.5	5.0
St.	252	284	182	50.4	47.2	35.4
Cc.	198	291	307	39.6	48.3	59.6

The figures are in agreement with Graves' in that scaphoid types are very common. They are in further agreement in that the scapulae with a straight vertebral border are more common in the younger children. They do not agree in that this diminution in the number of straight types coincides with an increase in the number of concave types. The convex types are said to increase in number with advancing age, while the scaphoid types diminish. As the type is supposed not to change, this variation in incidence is explained by the assumption that there is a higher mortality amongst possessors of the scaphoid types of scapulae. This, of course, one would expect if such individuals are innately poor in adaptability.

In the figures under review, the number of children with scaphoid types is so high that such an explanation seems improbable. Further, the number of convex types appears to diminish with advancing age, whereas it should increase.

The numbers are, of course, small, and further, the time intervals between the age periods are small. In Graves' figures for age incidence the intervals are 10 or 20 yearly periods.

*Sex Incidence.*

At all ages there is a higher percentage of boys with convex scapulae. If one accepts the conclusion that possessors of scapulae of convex type are better adapted individuals, the boys should be on a higher plane than the girls. From general observations, however, the converse appears to be the case.

The following tables show the difference as regards nutrition, dental caries and defective vision :—

*Nutrition :*

		Nos.			%		
		1	2	3	1	2	3
E's.	Boys	51	166	27	21	68	11
	Girls	93	133	30	36.2	52	11.7
8's	Boys	38	213	53	12.5	70.1	17.4
	Girls	87	168	43	29.2	56.4	14.4
12's	Boys	64	166	26	25	64.8	10.2
	Girls	101	128	30	39	49.5	11.6



*Dental Caries :*

		Nos.			%		
		1	2	3	1	2	3
E's	Boys	135	48	61	55.3	19.7	25.0
	Girls	143	71	42	55.8	27.7	16.5
8's	Boys	153	84	67	50.3	27.7	22.0
	Girls	176	72	50	59	24.2	16.8
12's	Boys	177	49	30	69.1	19.1	11.8
	Girls	181	52	26	70.	20	10.0

*Vision :*

		Nos.			%		
		1	2	3	1	2	3
8's	Boys	202	61	41	66.5	20	13.5
	Girls	187	82	29	62.8	27.5	9.7
12's	Boys	178	47	31	69.5	18.3	12.2
	Girls	165	50	44	63.7	19.3	17

Nutrition	...	1—Very good 2—Normal 3—Subnormal	
D.C.	...	1—None carious 2—1 to 4 carious 3—4 plus carious	{ Ordinary examination— not dental examination
Vision	...	1—6/6 both eyes 2—6/9 one or both eyes 3—6/12 or worse one or both eyes.	
F.B.	...	1—Skin clean 2—A few flea bites 3—Flea bitten	
T. & A.	...	1—Tonsils and/or adenoids absent 2—Present, but not severe 3—For operation	

As regards nutrition it will be seen that the superiority noticed in general observation is due to the fact that a larger number of girls have very good nutrition. Approximately, the same percentage at all ages have poor nutrition.

As regards dental caries, the girls are superior at all ages ; there is not much difference in the figure for defective vision.

*B.*—The second part of the enquiry—an attempt to show whether physical defects are more common amongst possessors of scaphoid scapulae is valueless because of the scarcity of convex types. The following tables were drawn up in an attempt to show the differences. So far as they go they tend to show that convex types are physically superior, but no conclusion can be reached from them :—

	Nutrition.			F.B.			D.C.			T's and A's			Vision.		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Entrants.															
Boys—															
Cv. ...	9	18	4	28	3	0	16	9	6	20	8	3	...	...	...
No. St. ...	27	100	9	128	7	1	76	31	29	65	59	12	...	...	...
Ce. ...	15	48	14	67	8	2	43	8	26	38	35	4	...	...	...
%															
Cv. ...	29	58	13	91	9	0	52	29	19	65	26	9	...	...	...
St. ...	20	74	6	94	5	1	56	23	21	48	43	9	...	...	...
Ce. ...	20	62	18	87	10	3	56	10	34	49	45	6	...	...	...
Girls—															
Cv. ...	10	8	1	17	1	1	10	7	2	12	6	1	...	...	...
No. St. ...	43	59	14	108	8	0	67	33	16	63	48	5	...	...	...
Ce. ...	40	66	15	101	16	4	66	31	24	69	44	8	...	...	...
%															
Cv. ...	53	42	5	90	5	5	53	37	10	63	32	5	...	...	...
St. ...	37	51	12	93	7	0	58	28	14	54	42	4	...	...	...
Ce. ...	33	55	12	84	13	3	55	26	19	57	36	7	...	...	...
8's.															
Boys—															
Cv. ...	6	10	2	15	3	0	10	7	1	11	3	4	12	5	1
No. St. ...	14	103	3	130	14	4	70	38	40	70	66	12	96	30	22
Ce. ...	18	100	20	117	15	6	73	39	26	88	33	17	94	26	18
%															
Cv. ...	33	56	11	83	17	0	56	39	5	61	17	22	67	28	5
St. ...	9	70	21	88	9	3	47	26	27	47	45	8	65	20	15
Ce. ...	13	72	15	85	11	4	53	28	19	64	24	12	68	19	13
Girls—															
Cv. ...	4	5	0	8	1	0	7	2	0	4	5	0	4	5	0
No. St. ...	40	81	15	124	11	1	81	33	22	77	50	9	89	31	16
Ce. ...	43	82	28	132	15	6	88	37	28	82	68	3	94	46	13
%															
Cv. ...	44	56	0	89	11	0	78	22	0	44	56	0	44	56	0
St. ...	29	60	11	91	8	1	60	24	16	57	36	7	65	23	12
Ce. ...	28	54	18	86	10	4	57	24	19	54	44	2	61	31	8
12's.															
Boys—															
Cv. ...	6	15	0	19	2	0	15	5	1	13	8	0	12	8	1
No. St. ...	27	67	12	98	7	1	72	20	14	62	41	3	77	18	11
Ce. ...	31	84	14	115	12	2	90	24	15	88	39	2	89	21	19
%															
Cv. ...	29	71	0	90	10	0	71	24	5	62	38	0	57	38	5
St. ...	25	64	11	92	7	1	68	19	13	58	39	3	73	17	10
Ce. ...	24	65	11	89	9	2	70	19	11	68	30	2	69	16	15
Girls—															
Cv. ...	5	0	0	4	1	0	4	1	0	2	3	0	3	1	1
No. St. ...	31	36	9	70	4	2	46	21	9	48	28	0	48	14	14
Ce. ...	65	92	21	158	16	4	131	30	17	99	71	8	114	35	29
%															
Cv. ...	100	0	0	80	20	0	80	20	0	40	60	0	60	20	20
St. ...	41	47	12	92	5	3	60	28	12	63	37	0	63	18.5	18.5
Ce. ...	36	52	12	89	9	2	74	17	9	56	40	4	64	20	16

The following table shows the result of the examination of the Secondary School boys :—

	Nutrition.			F.B.			D.C.			T's.and A's.			Vision.		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Cv. ...	2	2	0	4	0	0	3	1	0	2	2	0	4	0	0
No. St. ...	17	22	3	42	0	0	22	16	4	29	12	1	26	8	8
Ce. ...	22	33	3	58	0	0	40	15	3	40	18	0	43	6	9
Cv. ...	50	50	0	100	0	0	75	25	0	50	50	0	100	0	0
% St. ...	40.5	52.5	7	100	0	0	52.5	38	9.5	69	28.6	2.4	62	19	19
Ce. ...	38	56.9	5.1	100	0	0	69	25.9	5.1	69	31	0	74	10.5	15.5

C.—As a matter of interest and in an endeavour to find out whether these children were inferior to those in other parts of the country, I obtained, through the courtesy of Dr. C. J. Thomas, of the London County Council, my own figures for examination of 3,072 London children. The only figures strictly comparable are those for nutrition, dental caries and vision, and these are given here :—

\* London children.

† Lancashire children.

*Nutrition.*

	Nos.			%		
	1	2	3	1	2	3
Entrants.						
Boys ...	* 174	357	40	30.3	62.7	7.0
	† 51	166	27	21.0	68.0	11.0
Girls ...	* 224	329	17	39.4	57.6	3.0
	† 93	133	30	36.2	52.0	11.7
8's.						
Boys ...	* 82	245	49	21.8	65.2	13.0
	† 38	213	53	12.5	70.1	17.4
Girls ...	* 91	212	32	27.2	63.3	9.5
	† 87	168	43	29.2	56.4	14.4
12's.						
Boys ...	* 144	392	70	23.8	64.6	11.6
	† 64	166	26	25.0	64.8	10.2
Girls ...	* 182	372	60	29.5	61.0	9.5
	† 101	128	30	39.0	49.5	11.6



*Dental Caries.*

	Nos.			%		
	1	2	3	1	2	3
Entrants.						
Boys ...	* 324 † 135	129 48	118 61	56·8 55·3	22·5 19·7	20·7 25·0
Girls ...	* 344 † 143	120 71	106 42	60·4 55·8	21·0 27·7	18·6 16·5
8's.						
Boys ...	* 206 † 153	136 84	34 67	55·0 50·3	36·0 27·7	9·0 22·0
Girls ...	* 218 † 176	79 72	38 50	65·0 59·0	23·5 24·2	11·5 16·8
12's.						
Boys ...	* 452 † 177	121 49	33 30	74·7 69·1	20·0 19·1	5·3 11·8
Girls ...	* 469 † 181	133 52	12 26	76·5 70·0	21·6 20·0	1·9 10·0

*Defective Vision.*

	Nos.			%		
	1	2	3	1	2	3
8's.						
Boys ...	* 161 † 202	144 61	71 41	43·0 66·5	38·2 20·0	18·8 13·5
Girls ...	* 185 † 187	85 82	65 29	55·0 62·8	25·5 27·5	19·5 9·7
12's.						
Boys ...	* 347 † 178	123 47	136 31	57·3 69·5	20·2 18·3	22·5 12·2
Girls ...	* 312 † 165	149 50	153 44	50·8 63·7	24·3 19·3	24·9 17·0

*Nutrition.*

The first point of interest is the fact that the percentages of girls with very good nutrition are approximately equal for both sets of children in the Entrant and Intermediate groups. In the leaver group there is a somewhat higher percentage of Lancashire girls with good nutrition. The percentages of Lancashire boys in the same group are lower for Entrants and Intermediates, but are approximately the same in the 12 year old group.

The percentages of children with poor nutrition are higher for Lancashire in the Entrant and Intermediate groups, but are approximately the same as those for London in the leaver groups. The difference is probably due to environmental factors, such as the economic position of the workers and the length of the period during which Medical Inspection and treatment have been carried out.

*Dental Caries.*

The figures here illustrate the value of school dental work which has been available for a much longer period in London. The figures for Entrants are about the same ; those for 12 years old are very different.

*Defective Vision.*

Here the proportion is reversed, the London children are considerably worse at all ages than the Lancashire children. It seems probable that the important factor in this case is greater urbanisation over a longer period of time in the case of the London figures.

In conclusion it would seem that, if the type of scapulae is fixed, there must be racial or local differences to account for the great differences in the results of the various observers, and that in this area at any rate, the possession of a scaphoid scapula does not necessarily show innate defectiveness.

## APPENDIX.

STATISTICAL TABLES IN RESPECT OF THE ROUTINE  
INSPECTION OF ELEMENTARY SCHOOLS CARRIED  
OUT DURING THE YEAR ENDED 31ST DECEMBER,  
1929.

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

*A.—Routine Medical Inspections.*

Number of Code Group Inspections—					
Entrants	...	...	...	...	12,887
Intermediates	...	...	...	...	13,716
Leavers	...	...	...	...	10,339
	Total	...	...	...	<hr/> 36,942

### B.—Other Inspections.

Number of Special Inspections	...	...	...	14,776
Number of Re-inspections	...	...	...	18,958
Total	...	...	...	<hr/> 33,734
Number of children examined at re-visits to schools by Medical Officers	...	...	...	17,378
Number of individual children examined by Medical Officers at Minor Ailments Treatment Clinics				8,764

TABLE II.

A.—RETURN OF DEFECTS FOUND IN THE COURSE OF MEDICAL INSPECTION IN 1929.

DEFECT OR DISEASE.				Routine Inspections.		Specials.		
				Number referred for Treatment.	Number requiring to be kept under observation, but not referred for Treatment.	Number referred for Treatment.	Number requiring to be kept under observation, but not referred for Treatment.	
Skin.	Malnutrition ... ..			47	712	14	404	
	{	Ringworm—						
		Scalp ... ..	54	4	18	3		
		Body ... ..	29	...	7	3		
		Scabies ... ..	23	3	15	...		
		Impetigo ... ..	358	75	105	33		
	Other Diseases (Non-Tubercular) ... ..			232	229	69	52	
Eye.	{	Blepharitis ... ..			227	192	75	59
		Conjunctivitis ... ..			89	181	32	67
		Keratitis ... ..			4	4	3	4
		Corneal Opacities ... ..			6	34	4	19
		Defective Vision ... ..			1,452	1,781	620	505
		Squint ... ..			249	342	103	156
		Other Conditions ... ..			2	2	1	...
Ear.	{	Defective Hearing ... ..			85	148	36	75
		Otitis Media ... ..			226	43	67	15
		Other Ear Diseases ... ..			111	74	11	15
Nose and Throat.	{	Enlarged Tonsils ... ..			603	4,145	212	871
		Adenoids ... ..			94	398	33	104
		Enlarged Tonsils & Adenoids ... ..			431	648	168	266
		Other Conditions ... ..			...	...	...	...
Enlarged Cervical Glands (Non-Tubercular) ... ..				20	3,117	7	511	



TABLE II.—Continued.

DEFECT OR DISEASE.				Routine Inspections.		Specials.	
				Number referred for Treatment.	Number re quiring to be kept under observation, but not referred for Treatment.	Number referred for Treatment.	Number re quiring to be kept under observation, but not referred for Treatment.
Defective Speech	...	...	...	6	151	...	60
Teeth—Dental Diseases	...	...	...	4,261	3,209	622	802
Heart and Circulation	{ Heart Disease—						
	Organic			28	227	1	101
	Functional			3	825	...	291
	Anæmia	...	...	52	204	13	78
Lungs.	{ Bronchitis			164	752	26	191
	Other Non-Tubercular Diseases			13	255	5	18
Tuberculosis.	{ Pulmonary—						
	Definite			1	1	...	...
	Suspected			9	31	5	9
	{ Non-Pulmonary—						
	Glands			10	32	3	22
	Spine			...	6	...	...
	Hip			...	3	1	...
	Other Bones and Joints			3	1	...	3
Nervous System.	{ Epilepsy			2	18	...	16
	Chorea			7	22	4	16
	Other Conditions			10	25	15	9
Deformities	{ Rickets			45	268	4	123
	Spinal Curvature			32	77	10	21
	Other Forms			166	695	55	200
Other Defects and Diseases	...	...	...	358	898	105	245

B.—NO. OF INDIVIDUAL CHILDREN FOUND AT ROUTINE MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

GROUP.	NUMBER OF CHILDREN.		Percentage of children found to require Treatment.
	Inspected.	Found to require Treatment.	
Code Groups—			
Entrants	12,887	1,105	8·57
Intermediates	13,716	1,477	10·76
Leavers	10,339	1,312	12·58
Total (Code Groups)...	36,942	3,894	10·54
Other routine inspections	...	...	...

TABLE III.—NUMERICAL RETURN OF ALL EXCEPTIONAL CHILDREN  
IN THE AREA IN 1929.

			Boys.	Girls.	Total.
Blind (including partially blind)	(i.) Suitable for training in a School or Class for the totally blind	Attending Certified Schools or Classes for the Blind ...	12	16	28
		Attending Public Elementary Schools ... ..	...	...	...
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	...	...	...
	(ii.) Suitable for training in a School or Class for the partially blind	Attending Certified Schools or Classes for the Blind ...	22	21	43
		Attending Public Elementary Schools ... ..	45	26	71
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	...	...	...
Deaf (including deaf and dumb and partially deaf)	(i.) Suitable for training in a School or Class for the totally deaf or deaf and dumb	Attending Certified Schools or Classes for the Deaf... ..	30	28	58
		Attending Public Elementary Schools ... ..	5	3	8
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	...	...	...
	(ii.) Suitable for training in a School or Class for the partially deaf	Attending Certified Schools or Classes for the Deaf... ..	20	17	37
		Attending Public Elementary Schools ... ..	35	25	60
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	...	...	...
Mentally Defective	Feeble-minded (cases not notifiable to the Local Control Authority)	Attending Certified Schools for Mentally Defective Children	5	...	5
		Attending Public Elementary Schools ... ..	200	146	346
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	29	24	53
	Notified to the Local Control Authority during the year ...		15	12	27
Epileptics	Suffering from severe epilepsy	Attending Certified Special Schools for Epileptics ...	7	4	11
		In Institutions other than Certified Special Schools ...	...	...	...
		Attending Public Elementary Schools ... ..	8	2	10
		At no School or Institution ...	17	10	27
	Suffering from epilepsy which is not severe	Attending Public Elementary Schools ... ..	106	54	160
		At no School or Institution ...	10	2	12
Physically Defective	Infectious pulmonary and glandular tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board... ..	*	*	*
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	13	12	25

\*These cases are dealt with by the County Tuberculosis Committee. Full particulars are published in the Annual Report of the Central Tuberculosis Officer.

TABLE III.—Continued.

			Boys.	Girls.	Total.
Physically Defective ( <i>contd.</i> )	Non-infectious but active pulmonary and gland- ular tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board... ..	*	*	*
		At Certified Residential Open Air Schools ... ..	...	...	...
		At Certified Day Open Air Schools ... ..	...	...	...
		At Public Elementary Schools	94	77	171
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	3	7	10
	Delicate children ( <i>e.g.</i> , pre or latent tuberculosis, malnutrition, debility, anæmia, &c.)	At Certified Residential Open Air Schools ... ..	...	...	...
		At Certified Day Open Air Schools ... ..	...	...	...
		At Public Elementary Schools	425	363	788
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	18	20	38
	Active non-pulmonary tuberculosis	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board... ..	*	*	*
		At Public Elementary Schools	67	41	108
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	17	13	30
	Crippled Children (other than those with active tuberculous disease), <i>e.g.</i> , children suffering from paralysis, &c., and including those with severe heart disease	At Certified Hospital Schools...	30	39	69
		At Certified Residential Cripple Schools ... ..	...	...	...
		At Certified Day Cripple Schools ... ..	...	...	...
		At Public Elementary Schools	868	770	1638
		At other Institutions ... ..	...	...	...
		At no School or Institution ...	50	41	91

TABLE IV.—RETURN OF DEFECTS TREATED DURING 1929.

*Group I.—Minor Ailments (excluding Uncleanliness).*

DISEASE OR DEFECT.	No. of Defects treated or under Treatment during the year.		
	Under Authority's Scheme.	Otherwise.	Total.
Skin—			
Ringworm—Scalp ... ..	147	74	221
Ringworm—Body ... ..	132	19	151
Scabies ... ..	92	25	117
Impetigo ... ..	2193	326	2519
Other Skin Diseases ... ..	602	181	783
Minor Eye Defects ... ..	1164	340	1504
Minor Ear Defects ... ..	920	340	1260
Miscellaneous ... ..	4115	866	4981
Total ... ..	9365	2171	11536

\*These cases are dealt with by the County Tuberculosis Committee. Full particulars are published in the Annual Report of the Central Tuberculosis Officer.